# WSH-XSC3 WSHN-XSC3

**70.4÷120.4**

## SPINchiller[3]

**Liquid chiller**
WSH-XSC3: cooling only
WSHN-XSC3: Reversible heat pump
Water cooled
Indoor installation
**Capacity from 211 to 394 kW**

- ✓ Double independent circuits for high reliability with scroll compressors and plate heat exchangers
- ✓ Solution for multi-family and commercial buildings
- ✓ Refrigerant R410A - GWP = 2088
- ✓ Double independent circuits for high reliability with scroll compressors and plate heat exchangers
- ✓ Solution for multi-family and commercial buildings
- ✓ Domestic hot water up to 60°C, low water temperature down to -8°C
- ✓ Modular operation management, up to 8 units in cascade
- ✓ Integrated source and user side hydronic assemblies and partial recovery

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

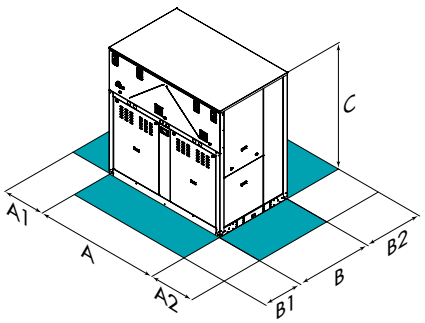
Clivet participates in the EUROVENT "Liquid Chilling Packages and Hydronic Heat Pumps". The products concerned feature on the website www.eurovent-certification.com

ErP compliant ErP

## functions and features


Cooling only (WSH-XSC3) | Heat pump (WSHN-XSC3) | Water cooled | Indoor installation | R-410A | Hermetic Scroll | Electronic expansion valve | HydroPack | Vary Flow | Intelliplant

## dimensions and clearances




CAUTION!

For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

| Size ▸▸ WSH-XSC3 | | 70.4 | 75.4 | 80.4 | 85.4 | 90.4 | 100.4 | 110.4 | 120.4 |
|---|---|---|---|---|---|---|---|---|---|
| A - Length | mm | 2234 | 2234 | 2234 | 2234 | 2234 | 2234 | 2234 | 2234 |
| B - Width | mm | 1132 | 1132 | 1132 | 1132 | 1132 | 1132 | 1132 | 1460 |
| C - Height | mm | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 |
| A1 | mm | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| A2 | mm | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| B1 | mm | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| B2 | mm | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| EN Operating weight | kg | 1246 | 1268 | 1336 | 1356 | 1419 | 1692 | 1751 | 1935 |

| Size ▸▸ WSHN-XSC3 | | 70.4 | 75.4 | 80.4 | 85.4 | 90.4 | 100.4 | 110.4 | 120.4 |
|---|---|---|---|---|---|---|---|---|---|
| A - Length | mm | 2234 | 2234 | 2234 | 2234 | 2234 | 2234 | 2234 | 2234 |
| B - Width | mm | 1134 | 1134 | 1134 | 1134 | 1134 | 1134 | 1134 | 1460 |
| C - Height | mm | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 |
| A1 | mm | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| A2 | mm | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| B1 | mm | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| B2 | mm | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| EN Operating weight | kg | 1242 | 1264 | 1322 | 1343 | 1406 | 1583 | 1651 | 1924 |

The above mentioned data are referred to standard units for the constructive configurations indicated.
For all the other configurations, refer to the relative Technical Bulletin.

EN Super-silenced (EN)

## versions and configurations

ACOUSTIC CONFIGURATION:

**EN** Super-silenced acoustic configuration (Standard)
**GEO** Version for Geothermal application

ENERGY RECOVERY:

**-** Energy recovery: not required (Standard)
**D** Partial energy recovery

LOW TEMPERATURE (WSH-XSC3 ONLY):

**-** Low temperature: not required (Standard)
**B** Water low temperature

OPERATION (WSH-XSC3 ONLY):

**OCO** Cooling-only operation (Standard)
**OHO** Heating-only operation
**OHI** Operation with water circuit change-over

## technical data

| Size ▶▶ WSH-XSC3 | | | 70.4 | 75.4 | 80.4 | 85.4 | 90.4 | 100.4 | 110.4 | 120.4 |
|---|---|---|---|---|---|---|---|---|---|---|
| ◆ Cooling capacity (EN 14511:2022) | (1) | kW | 217 | 231 | 248 | 268 | 292 | 319 | 350 | 394 |
| Total power input (EN 14511:2022) | (1) | kW | 46,4 | 50,4 | 53,3 | 58,4 | 61,9 | 68,2 | 75,5 | 83,6 |
| EER (EN 14511:2022) | (1) | - | 4,68 | 4,59 | 4,65 | 4,58 | 4,71 | 4,68 | 4,64 | 4,72 |
| SEER | (4) | - | 6,16 | 6,24 | 6,18 | 6,06 | 6,01 | 5,73 | 5,65 | 5,91 |
| $\eta_{s,c}$ | (4) | % | 238,6 | 241,7 | 239,1 | 234,3 | 232,4 | 221,3 | 217,9 | 228,2 |
| ◆ Heating capacity (EN 14511:2022) | (2) | kW | 249 | 266 | 285 | 309 | 333 | 366 | 401 | 453 |
| Total power input (EN 14511:2022) | (2) | kW | 56,8 | 61,5 | 64,2 | 71,5 | 76,3 | 83,5 | 92,6 | 103 |
| COP (EN 14511:2022) | (2) | - | 4,39 | 4,32 | 4,44 | 4,32 | 4,36 | 4,38 | 4,33 | 4,41 |
| Refrigeration circuits | | Nr | 2 | | | | | | | |
| No. of compressors | | Nr | 4 | | | | | | | |
| Type of compressors | | - | SCROLL | | | | | | | |
| Refrigerant | | - | R-410A | | | | | | | |
| Water flow-rate (User side) | | l/s | 10,3 | 11,0 | 11,8 | 12,7 | 13,9 | 15,2 | 16,6 | 18,8 |
| Water flow (Source side) | | l/s | 12,7 | 13,5 | 14,4 | 15,6 | 16,9 | 18,6 | 20,4 | 22,9 |
| Standard power supply | | V | 400/3~/50 | | | | | | | |
| EN Sound power level | (3) | dB(A) | 81 | 82 | 83 | 83 | 83 | 84 | 85 | 86 |

| Size ▶▶ WSHN-XSC3 | | | 70.4 | 75.4 | 80.4 | 85.4 | 90.4 | 100.4 | 110.4 | 120.4 |
|---|---|---|---|---|---|---|---|---|---|---|
| ◆ Cooling capacity (EN 14511:2022) | (1) | kW | 211 | 225 | 242 | 262 | 283 | 313 | 342 | 390 |
| Total power input (EN 14511:2022) | (1) | kW | 48,5 | 52,6 | 55,5 | 61,1 | 65,5 | 71,6 | 79,1 | 88,0 |
| EER (EN 14511:2022) | (1) | - | 4,35 | 4,28 | 4,36 | 4,29 | 4,33 | 4,37 | 4,32 | 4,44 |
| SEER | (4) | - | 5,95 | 5,89 | 5,84 | 5,90 | 5,92 | 5,65 | 5,40 | 5,92 |
| $\eta_{s,c}$ | (4) | % | 229,9 | 227,8 | 225,7 | 228,0 | 228,8 | 217,9 | 207,9 | 228,6 |
| ◆ Heating capacity (EN 14511:2022) | (2) | kW | 243 | 259 | 278 | 301 | 327 | 358 | 393 | 445 |
| Total power input (EN 14511:2022) | (2) | kW | 58,4 | 63,2 | 66,8 | 73,4 | 78,9 | 86,5 | 94,8 | 106 |
| COP (EN 14511:2022) | (2) | - | 4,17 | 4,10 | 4,17 | 4,10 | 4,14 | 4,14 | 4,14 | 4,20 |
| Refrigeration circuits | | Nr | 2 | | | | | | | |
| No. of compressors | | Nr | 4 | | | | | | | |
| Type of compressors | | - | SCROLL | | | | | | | |
| Refrigerant | | - | R-410A | | | | | | | |
| Water flow-rate (User side) | | l/s | 10,0 | 10,7 | 11,5 | 12,5 | 13,5 | 14,9 | 16,3 | 18,6 |
| Water flow (Source side) | | l/s | 12,4 | 13,3 | 14,3 | 15,5 | 16,7 | 18,4 | 20,2 | 22,9 |
| Standard power supply | | V | 400/3~/50 | | | | | | | |
| EN Sound power level | (3) | dB(A) | 81 | 82 | 83 | 83 | 83 | 84 | 85 | 86 |
| **Directive ErP (Energy Related Products)** | | | | | | | | | | |
| SCOP - AVERAGE Climate - W35 | (4) | - | 6,09 | 6,09 | 6,13 | 6,05 | 5,89 | 6,22 | 6,07 | - |
| $\eta_{s,H}$ | (4) | % | 241 | 241 | 242 | 239 | 233 | 246 | 240 | - |
| SCOP - AVERAGE Climate - W35 | (4) | - | 4,72 | 4,67 | 4,72 | 4,67 | 4,41 | 4,77 | 4,70 | - |
| $\eta_{s,H}$ | (4) | % | 181 | 179 | 181 | 179 | 168 | 183 | 180 | - |

(1) Performance data calculated in accordance with EN 14511:2022 referred to the following conditions: Internal exchanger water temperature = 12/7°C; External exchanger water temperature = 30/35°C
(2) Data calculated in compliance with Standard EN 14511:2022 referred to the following conditions: Internal exchanger water temperature = 40/45°C; External exchanger water temperature = 10/7°C
(3) Sound pressure levels are referred to units operating at nominal load in nominal conditions. Measurements are carried out accordingly to UNI EN ISO 9614-1 at nominal standard conditions defined in respective regulations: EU 2016/2281, UE 813/2013, UE 811/2013.
Sound power level are not Eurovent certified.

(4) Data calculated according to the EN 14825:2018 Regulation

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 811/2013 (rated heat output ≤70 kW at specified reference conditions), the Commission delegated Regulation (EU) No 813/2013 (rated heat output ≤400 kW at specified reference conditions) and the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.

## accessories

**AP** Rear water fittings
**SDV** Cutoff valve on compressor supply and return
**MHP** High and low pressure gauges
**MF2** Multi-function phase monitor
**SFSTR** Disposal for inrush current reduction
**RCMRX** Remote control via microprocessor control
**ACIE** Antifreeze heater for internal exchanger protection
**EHCS** Source side antifreeze electric heaters
**CMSC10** Serial communication module for LonWorks supervisor
**CMSC9** Serial communication module for Modbus supervisor
**CMSC11** Serial communication module for BACnet-IP supervisor
**SCP4** Set-point compensation with 0-10 V signal
**SPC2** Set-point compensation with outdoor air temperature probe
**CSVX** Couple of manually operated shut-off valves
**IFWX** Steel mesh strainer on the water side
**PFCP** Power factor correction capacitors (cosfi > 0.9)
**AVIBX** Anti-vibration mount support
**CONTA2** Energy meter
**RPRPDI** Refrigerant leak detector with pump down function in the casing
**ECS** ECOSHARE function for the automatic management of a group of units
**PSX** Mains power supply
**IVFDT** Inverter driven variable flow-rate user side control depending on the temperature differential

Only WSH-XSC3:
**HYGC1** Cooling side hydronic assembly with 1 ON/OFF pump
**HYGC2** Cooling side hydronic assembly with 2 ON/OFF pumps
**VS2MC** Cooling side 2-way modulating valve
**VS2MCX** Cooling side 2-way modulating valve
**VS3MCX** Cooling side 3-way modulating valve
**VARYC** VARYFLOW + (cooling side 2 inverter pumps)
**2PMC** Hydropack cooling side with 2 pumps
**V2MCP** Cooling side 2-way modulating valve for high DP
**V2MCPX** Cooling side 2-way modulating valve for high DP
**HYGH1** Heating side hydronic assembly with 1 ON/OFF pump
**HYGH2** Heating side hydronic assembly with 2 ON/OFF pumps
**VARYH** VARYFLOW + (heating side 2 inverter pumps)
**VS2MH** Heating side 2-way modulating valve
**VS2MHX** Heating side 2-way modulating valve
**VS3MHX** Heating side 3-way modulating valve
**2PMH** Hydropack heating side with 2 pumps
**V2MHP** Heating side 2-way modulating valve for high DP
**V2MHPX** Heating side 2-way modulating valve for high DP

Only WSHN-XSC3:
**HYGU1** User side hydronic assembly with 1 ON/OFF pump
**HYGU2** User side hydronic assembly with 2 ON/OFF pumps
**VARYU** VARYFLOW + (user side 2 inverter pumps)
**HYP2U** Hydropack user side with 2 pumps
**HYGS1** Source side hydronic assembly with 1 ON/OFF pump
**HYGS2** Source side hydronic assembly with 2 ON/OFF pumps
**VARYS** VARYFLOW + (source side 2 inverter pumps)
**VS2M** Source side 2-way modulating valve
**VS2MX** Source side 2-way modulating valve
**VS3MX** Source side 3-way modulating valve
**HYP2S** Hydropack source side with 2 pumps
**V2MSP** Source side 2-way modulating valve for high DP
**V2MSPX** Source side 2-way modulating valve for high DP

Accessories whose code ends with "X" are supplied separately

REF - DG24L504GB-01