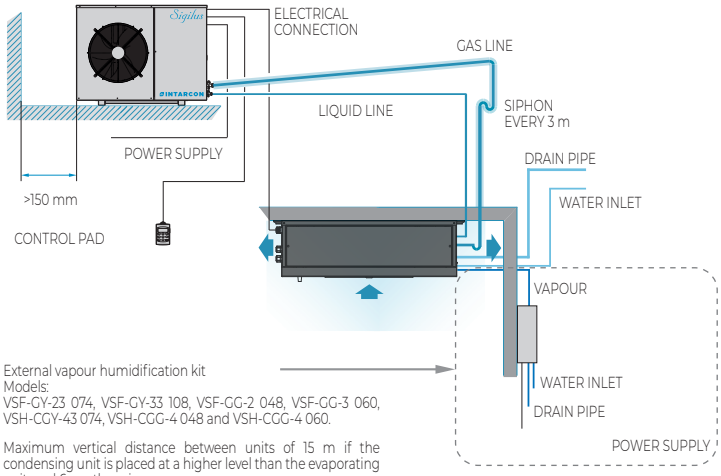
# Wine, cheese and mini drying rooms units


Wine cellar refrigeration split systems with low-noise axial or centrifugal condensing unit and double-flow evaporating unit with heating function, humidification / dehumidification system and condensed water pump, and compact ceiling construction with axial or centrifugal condensation.

## APPLICATIONS

- Bottled wine preservation.
- Refrigeration at high temperature with humidity control.
- Preservation of wine in barrels.
- Cheese curing.
- Mini drying rooms.
- Tobacco preservation.

## INSTALLATION SCHEME




External vapour humidification kit
Models:
VSF-GY-23 074, VSF-GY-33 108, VSF-GG-2 048, VSF-GG-3 060, VSH-CGY-43 074, VSH-CGG-4 048 and VSH-CGG-4 060.

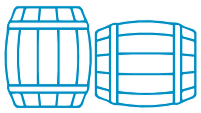
Maximum vertical distance between units of 15 m if the condensing unit is placed at a higher level than the evaporating unit, and 6 m otherwise.

### Conservation of bottled wine

Bottled wine requires temperature and humidity controlled conditions that optimally conserve the product while avoiding both cork drying and label mouldiness.
The wine treatment unit guarantees optimal conditions for the preservation of bottled wine.

### Wine conservation in barrel

In the conservation of wine in barrels, the relative humidity inside the cellar is of great importance, which must be adjusted so that there is no transfer of water vapour between the environment of the cellar and the interior of the barrel, avoiding thus wine wastage or water absorption by the content.



### External vapour humidification kit

Vapour humidification with 3 kg/h capacity, consisting of: vapour lances integrated in the evaporator unit, a submerged electrode generating cylinder with feed valves and water purge valves.

### Electrical interconnection

For the interconnection of the condenser and evaporator units, the following cable sections must be provided for a length of 10 m:

| | | |
|---|---|---|
| Power supply | 230V 50Hz | 400V 3N 50Hz |
| Probes | 4 x 1 mm² | |
| Manoeuvre | 2 x 1 mm² | 3 x 1 mm² |
| Heating resistance | 2 x 1,5 mm² + T | 4 x 1,5 mm² + T |
| Control pad | 2 x 1 mm² | |
| Humidifier | 2 x 1 mm² | |

* Optional not included.
To know electrical interconnections of each model: see technical manual.

## FEATURES

| | |
|---|---|
| Double-flow low-profile evaporating unit with heaters and active humidification / dehumidification system; and evaporation anti-corrosion coated coil. | ■ |
| Air defrost; Air filter. | ■ |
| Evaporator built-in solenoid and thermostatic expansion valves. | ■ |
| Drain pan and condensed water pump. | ■ |
| Flare-type cooling connections (up to 1/2"-3/4) and service valves. | ■ |
| Liquid receiver and refrigerant pre-charge for 10 m piping. | ■ |
| Proportional condensation control (VSF 1/2/3 and VSH 4/43 series) and all / nothing condensation control (VSF 0, VSH 2/22 and 3/33 series). | ■ |
| Multifunction electronic control of temperature / humidity, with remote control. | ■ |
| MCB protection. | ■ |
| Change to 400V 3N 50Hz power supply. | □ + 5 % |
| Proportional control of condensing pressure through fan speed variation (already included in VSF 1/2/3 series and VSH 4/43 series). | □ + 317 € |
| Built-in oil separator. | □ + 745 € |
| Condenser coil anti-corrosion treatment. | □ + 4 % |
| Coil protection grille. | □ + 117 € |

■ As standard □ Optional

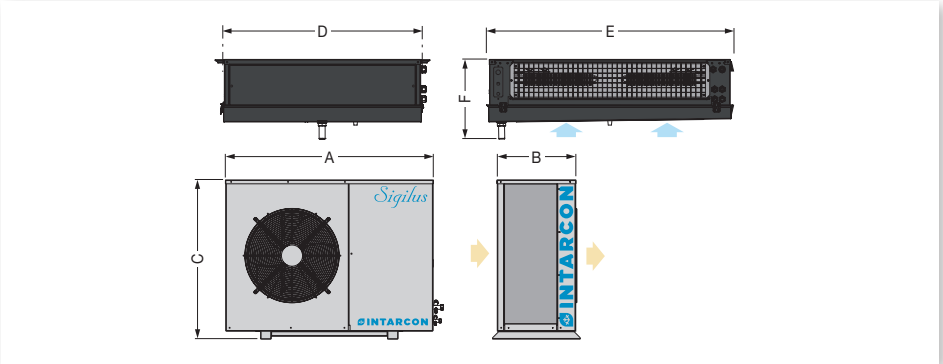
VSF-G series

VSH-CG series

230V 50Hz / 400V 3N 50Hz | Positive temperature - Wine cellar | Hermetic compressor | R-134a / R-449A

| Refrigerant | Series / Model | Compressor HP | Compressor Power supply | Cellar volume (m³) Without insulation | Cellar volume (m³) Insulation | Cooling capacity 15 °C 70 % HR (W) [1] | Heating capacity (W) | Input power (W) [2] | Input power (W) [3] | Max. current (A) | Evap. flow (m³/h) | Cond. flow (m³/h) | Liq-Gas Cooling Connection | Refrig. charge (kg) [4] | Weight (kg) | SPL dB(A) [5] | Price (€) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R-134a | VSF-GY-00010A | 3/8 | 230V | 11 | 37 | 1 242 | 1 000 | 1 520 | 520 | 8.8 | 500 | 350 | 1/4"-3/8" | < 1.5 | 46+30 | 28 | 6 617 |
| | VSF-GY-10015A | 1/2 | 230V | 20 | 53 | 1 820 | 1 000 | 1 670 | 670 | 10.1 | 500 | 1 700 | 1/4"-1/2" | < 2.0 | 57+30 | 34 | 7 542 |
| | VSF-GY-11033A | 1 | 230V | 47 | 100 | 3 281 | 1 500 | 2 760 | 1 260 | 16.3 | 1 100 | 1 700 | 1/4"-5/8" | < 2.5 | 67+35 | 34 | 9 078 |
| | VSF-GY-12053A | 1 1/2 | 230V * | 74 | 168 | 4 683 | 3 000 | 4 930 | 1 930 | 26.1 | 1 800 | 3 200 | 3/8"-3/4" | < 3.5 | 77+47 | 35 | 11 241 |
| | VSF-GY-23074A[K] | 2 | 230V * | 149 | 297 | 7 497 | 6 000 | 8 600 | 2 600 | 43.7 | 3 150 | 3 700 | 3/8"-3/4" | < 5.5 | 79+75 | 34 | 14 825 |
| | VSF-GY-33108A[K] | 5 | 400V 3N | 224 | 444 | 9 944 | 6 000 | 9 500 | 3 500 | 26.1 | 3 150 | 4 000 | 3/8"-7/8" | < 6.0 | 98+75 | 35 | 17 359 |
| R-449A | VSF-GG-0008A | 1/3 | 230V | 10 | 35 | 1 227 | 1 000 | 1 160 | 480 | 8.4 | 500 | 350 | 1/4"-3/8" | < 1.5 | 48+30 | 28 | 6 237 |
| | VSF-GG-1014A | 1/2 | 230V | 24 | 60 | 2 134 | 1 500 | 2 550 | 1 050 | 13.5 | 1 100 | 1 700 | 1/4"-1/2" | < 2.5 | 59+35 | 34 | 7 107 |
| | VSF-GG-1024A | 1 | 230V | 47 | 100 | 3 388 | 3 000 | 4 810 | 1 810 | 24.9 | 1 800 | 1 700 | 3/8"-5/8" | < 4.0 | 82+47 | 34 | 8 556 |
| | VSF-GG-1034A | 1 1/2 | 230V * | 75 | 170 | 4 944 | 3 000 | 5 550 | 2 550 | 29.9 | 1 800 | 3 200 | 3/8"-5/8" | < 4.0 | 83+47 | 35 | 10 006 |
| | VSF-GG-2048A[K] | 2 | 400V 3N | 151 | 300 | 7 830 | 6 000 | 9 190 | 3 190 | 17.9 | 3 150 | 3 700 | 1/2"-3/4" | < 5.5 | 84+75 | 26 | 13 519 |
| | VSF-GG-3060A[K] | 3 | 400V 3N | 221 | 450 | 10 490 | 6 000 | 10 870 | 4 870 | 19.5 | 5 200 | 6 500 | 1/2"-7/8" | < 6.5 | 88+140 | 26 | 15 450 |

## DIMENSIONS




| Dimensions (mm) | A | B | C | D | E | F | Evaporator fans |
|---|---|---|---|---|---|---|---|
| 0 and 00 series | 671 | 308 | 442 | 764 | 653 | 205 | 1x Ø 254 |
| VSF-GY-10015A | 1 030 | 380 | 577 | 764 | 653 | 205 | 1x Ø 254 |
| 11 series and VSF-GG-1014A | 1 030 | 380 | 577 | 886 | 728 | 310 | 1x Ø 360 |
| 12 series, VSF-GG-1024A and 1034A | 1 030 | 380 | 577 | 886 | 1 079 | 310 | 2x Ø 360 |
| 2 and 23 series | 1 080 | 416 | 827 | 886 | 1 803 | 310 | 3x Ø 360 |
| VSF-GY-3310A | 1 150 | 487 | 1 097 | 886 | 1 803 | 310 | 3x Ø 360 |
| VSF-GG-3060A | 1 150 | 487 | 1 097 | 976 | 2 203 | 360 | 3x Ø 450 |

[1] Nominal performances refer to operation with cold room temperatures of 15 °C (PT) with relative humidity cold room of 70 % and ambient temperature of 35 °C. Volume of cold room for the hotel industry estimated without insulation and warehouse volume estimated with 30 mm insulation. Others applications by request.
[2] Input power at dehumidification mode.
[3] Input power at refrigeration mode.
[4] Units with refrigerant charge less than 5 tons of $CO_2$ equivalent (3.5 kg of R-134a or R-449A) exempt from leak checking, Regulation (EU) No 517/2014.
[5] Sound pressure level, with directivity 1, measured at 10 m from the unit (non-binding value calculated from sound power).
* Available units with 400V 3N 50Hz power supply.
[K] Standard models with external vapour humidification kit.

### Centrifugal version

| | Series / Model | HP | Cond. flow (m³/h) | PED (Pa) [6] | Price (€) |
|---|---|---|---|---|---|
| R-134a | VSH-CGY-10010A | 3/8 | 575 | 80 | 6 032 |
| | VSH-CGY-21015A | 1/2 | 1 000 | 120 | 7 542 |
| | VSH-CGY-22033A | 1 | 1 000 | 120 | 9 078 |
| | VSH-CGY-33053A | 1 1/2 | 1 500 | 140 | 11 241 |
| | VSH-CGY-43074A[K] | 2 | 3 500 | 100 | 14 825 |
| R-449A | VSH-CGG-2014A | 1/2 | 1 000 | 120 | 7 107 |
| | VSH-CGG-2024A | 1 | 1 000 | 120 | 8 556 |
| | VSH-CGG-3034A | 1 1/2 | 1 500 | 140 | 10 006 |
| | VSH-CGG-4048A[K] | 2 | 3 500 | 100 | 13 519 |
| | VSH-CGG-4060A[K] | 3 | 3 500 | 100 | 15 450 |

# HFC cooling connections

INTARCON commercial range split units are delivered pre-adjusted in factory, with a R-134a or R-449A refrigerant charge enough for up to 10 m of cooling pipes.

Condensing units feature service valves and Flare-type connections for a flared copper pipe for diameters up to 3/4" and ready-to-solder connections for diameters from 7/8".

We recommend using the following nominal pipe diameters for both, liquid and gas lines, according to the length of the cooling pipes. For total length longer than 10 m some extra refrigerant and polyester oil (POE) charge must be added as indicated in the following table:

| Model | | | Connection and recommended liquid-gas pipe diameter depending on pipe length | | | | | | Additional charge in grams of refrigerant / oil | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Connections | 5 m | 10 m | 15 m | 20 m | 25 m | 30 m | 15 m | 20 m | 25 m | 30 m |
| R-134a | HIGH TEMPERATURE | - 015 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | | | | | | | |
| | | - 026 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | | | 125 / 100 | | | |
| | | - 033 | Flare 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 125 / 150 | 250 / 300 | 375 / 450 | 500 / 450 |
| | | - 053 | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 300 / 200 | 600 / 400 | 900 / 600 | 1 200 / 600 |
| | | - 074 | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 300 / 200 | 600 / 400 | 900 / 600 | 1 200 / 600 |
| | | - 086 | Weld 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 300 / 250 | 600 / 500 | 900 / 750 | 1 200 / 750 |
| | | - 108 | Weld 3/8"-7/8" | 3/8"-7/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 300 / 250 | 600 / 500 | 900 / 750 | 1 200 / 750 |
| | | - 136 | Weld 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 600 / 250 | 1 200 / 500 | 1 800 / 750 | 2 400 / 750 |
| | | - 160 | Weld 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 600 / 250 | 1 200 / 600 | 1 800 / 900 | 2 400 / 900 |
| | | - 215 | Weld 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 600 / 300 | 1 200 / 600 | 1 800 / 900 | 2 400 / 900 |
| | POSITIVE TEMPERATURE | - 010 | Flare 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | 1/4"-1/2" | | | | | | | |
| | | - 0 015 | Flare 1/4"-3/8" | 1/4"-3/8" | 1/4"-1/2" | 1/4"-1/2" | | | | | | | |
| | | - 1 015 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-5/8" | | | 125 / 100 | | | |
| | | - 026 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-5/8" | 1/4"-5/8" | | | 125 / 100 | | | |
| | | - 033 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-3/4" | | 125 / 100 | 250 / 300 | | |
| | | | Flare 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-3/4" | | 125 / 100 | 250 / 300 | | |
| | | - 053 | Flare 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-3/4" | 1/4"-3/4" | | 125 / 150 | 250 / 300 | | |
| | | | Flare 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | | 125 / 150 | 250 / 300 | | |
| | | - 074 | Flare 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 125 / 150 | 1 200 / 400 | 1 500 / 600 | 1 800 / 600 |
| | | | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 300 / 150 | 600 / 400 | 900 / 600 | 1 200 / 600 |
| | | - 068 | Flare 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 125 / 150 | 800 / 400 | 1 100 / 600 | 1 400 / 600 |
| | | | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 300 / 200 | 600 / 400 | 900 / 600 | 1 200 / 600 |
| | | - 086 | Weld 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-1 1/8" | 300 / 200 | 600 / 400 | 900 / 750 | 1 200 / 750 |
| | | - 108 | Weld 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 300 / 200 | 600 / 500 | 900 / 750 | 1 200 / 750 |
| | | - 136 / - 171 | Weld 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 300 / 250 | 600 / 500 | 900 / 750 | 1 200 / 750 |
| | | - 215 | Weld 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 600 / 250 | 1 200 / 600 | 1 800 / 900 | 2 400 / 900 |
| | | - 271 | Weld 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 1/2"-1 3/8" | 600 / 300 | 1 200 / 600 | 1 800 / 900 | 2 400 / 900 |
| R-449A | HIGH TEMPERATURE | - 008 / - 010 | Flare 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | | | | | | | |
| | | - 012 | Flare 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | | | 100 / 25 | | | |
| | | - 014 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 300 / 50 | 600 / 100 | 900 / 150 | 1 200 / 150 |
| | | - 016 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 300 / 50 | 600 / 100 | 900 / 150 | 1 200 / 150 |
| | | - 018 | Flare 1/4"-1/2" | 1/4"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 3/8"-1/2" | 300 / 50 | 600 / 100 | 900 / 150 | 1 200 / 150 |
| | | - 024 / - 026 | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 300 / 100 | 600 / 200 | 900 / 300 | 1 200 / 300 |
| | | - 034 | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-3/4" | 3/8"-3/4" | 300 / 100 | 600 / 450 | 900 / 600 | 1 200 / 600 |
| | | - 038 | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 300 / 150 | 600 / 450 | 900 / 600 | 1 200 / 600 |
| | | - 048 | Flare 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-7/8" | 600 / 150 | 1 100 / 300 | 1 700 / 800 | 2 300 / 800 |
| | | - 054 | Flare 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-7/8" | 1/2"-7/8" | 600 / 150 | 1 100 / 600 | 1 700 / 800 | 2 300 / 800 |
| | | - 060 / - 068 | Weld 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 900 / 400 | 1 800 / 800 | 2 700 / 1200 | 3 600 / 1 200 |
| | | - 086 / - 108 | Weld 5/8"-1 1/8" | 5/8"-1 1/8" | 5/8"-1 1/8" | 5/8"-1 1/8" | 5/8"-1 1/8" | 5/8"-1 1/8" | 5/8"-1 1/8" | 900 / 400 | 1 800 / 800 | 2 700 / 1200 | 3 600 / 1 200 |
| | POSITIVE TEMPERATURE | - 008 / - 010 | Flare 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | | | | | | | |
| | | - 012 | Flare 1/4"-3/8" | 1/4"-3/8" | 1/4"-3/8" | 1/4"-1/2" | 1/4"-1/2" | | | 100 / 50 | | | |
| | | - 014 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | | | 100 / 50 | | | |
| | | - 016 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | | 100 / 50 | 200 / 100 | | |
| | | - 018 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | | 100 / 50 | 200 / 100 | | |
| | | - 024 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 3/8"-1/2" | 3/8"-1/2" | | 100 / 50 | 900 / 100 | | |
| | | | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 300 / 100 | 600 / 200 | 900 / 300 | 1 200 / 300 |
| | | - 026 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 3/8"-5/8" | 100 / 25 | 200 / 50 | 300 / 100 | 1 000 / 250 |
| | | | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 300 / 100 | 600 / 200 | 900 / 300 | 1 200 / 300 |
| | | - 034 | Flare 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 3/8"-3/4" | 3/8"-3/4" | 100 / 25 | 200 / 50 | 800 / 200 | 1 000 / 250 |
| | | | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 300 / 100 | 600 / 200 | 900 / 300 | 1 200 / 300 |
| | | - 038 | Flare 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 100 / 25 | 500 / 125 | 800 / 200 | 1 000 / 250 |
| | | | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-3/4" | 3/8"-3/4" | 300 / 100 | 600 / 450 | 900 / 600 | 1 200 / 600 |
| | | - 048 | Flare 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-7/8" | 1/2"-7/8" | 500 / 125 | 100 / 250 | 1 500 / 350 | 2 000 / 500 |
| | | | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 300 / 75 | 500 / 125 | 800 / 200 | 1 000 / 250 |
| | | - 054 | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 300 / 150 | 600 / 300 | 900 / 450 | 1 200 / 450 |
| | | - 060 | Flare 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-1 1/8" | 500 / 125 | 1 000 / 250 | 1 500 / 350 | 2 000 / 500 |
| | | | Flare 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-1 1/8" | 500 / 125 | 1 000 / 250 | 1 500 / 350 | 2 000 / 500 |
| | | | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 300 / 75 | 500 / 125 | 800 / 250 | 1 000 / 250 |
| | | - 068 | Flare 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-3/4" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 600 / 300 | 1 100 / 600 | 1 700 / 800 | 2 300 / 800 |
| | | | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 250 / 60 | 500 / 125 | 700 / 200 | 800 / 200 |
| | | - 086 | Weld 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 600 / 300 | 1 100 / 600 | 1 700 / 800 | 2 300 / 800 |
| | | - 108 | Weld 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-7/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 600 / 400 | 1 100 / 800 | 1 700 / 1 200 | 2 300 / 1 200 |
| | | - 136 | Weld 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 1/2"-1 1/8" | 600 / 400 | 1 100 / 800 | 1 700 / 1 200 | 2 300 / 1 200 |
| | NEGATIVE TEMPERATURE | - 018 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | | | | | | | |
| | | | Flare 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 3/8"-1 1/8" | 250 / 200 | 500 / 400 | 750 / 500 | 1 000 / 750 |
| | | - 026 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | | | 100 / 100 | | | |
| | | - 034 | Flare 1/4"-1/2" | 1/4"-1/2" | 1/4"-1/2" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | | 300 / 100 | 600 / 200 | | |
| | | | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 300 / 300 | 600 / 450 | 900 / 600 | 1 200 / 600 |
| | | - 055 | Flare 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 100 / 75 | 200 / 150 | 250 / 200 | 300 / 250 |
| | | | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 300 / 300 | 600 / 450 | 900 / 800 | 1 200 / 800 |
| | | - 075 | Flare 1/4"-5/8" | 1/4"-5/8" | 1/4"-5/8" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 1/4"-3/4" | 100 / 75 | 200 / 130 | 250 / 200 | 350 / 250 |
| | | | Flare 3/8"-5/8" | 3/8"-5/8" | 3/8"-5/8" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 300 / 300 | 600 / 450 | 900 / 800 | 1 200 / 800 |
| R-452A | | -096 | Flare 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-3/4" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 160/100 | 320/200 | 480/300 | 640/400 |
| | | -108 | Weld 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-11/8" | 3/8"-11/8" | 160/100 | 320/200 | 560/350 | 740/460 |
| | | -136 | Weld 3/8"-7/8" | 3/8"-7/8" | 3/8"-7/8" | 3/8"-11/8" | 3/8"-11/8" | 3/8"-11/8" | 3/8"-11/8" | 190/120 | 370/230 | 560/350 | 740/460 |
| | | -215 | Weld 1/2"-11/8" | 1/2"-11/8" | 1/2"-11/8" | 1/2"-11/8" | 1/2"-11/8" | 1/2"-13/8" | 1/2"-13/8" | 240/150 | 470/290 | 760/300 | 1010/630 |
| | | -271 | Weld 1/2"-13/8" | 1/2"-13/8" | 1/2"-13/8" | 1/2"-13/8" | 1/2"-13/8" | 1/2"-13/8" | 1/2"-15/8" | 250/160 | 500/310 | 760/480 | 1080/680 |