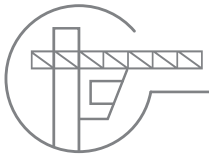
TMS
INDUSTRIAL REFRIGERATION

# VKS Series Crane Cab Coolers

## VC Compact Type Units



Crane Cabins

E-Containers/Shelters

VKS Series Crane Cabin Coolers are perfectly efficient, reliable and long lasting units engineered to operate in harsh environments. Depending on the working conditions, VKS Series units are engineered to fit the highest quality industry requirements and customer needs.

VC Compact Type units are designed for heavy-duty applications in harsh environmental conditions such as process cranes in metallurgy, oil & gas, cement, mining and port industries. The main features and advantages of this product are; plug & play compact design, ease of maintenance, less needs for erection services. The cooling, fan only and heating function modes are available while the filtering is always operating.

## General Specifications*

**2** kW - **7** kW
cooling capacity

**+95°**C
upper limit ambient temperature for operation

**TMS**
"Tailor Made Solutions" designed and produced according to your needs.

**Dust Resistant**
Durable design against dust.

**Corrosion Resistant**
Durable design against corrosion.

**Vibration Resistant**
Durable design against vibration.

- R134a, R227ea, R236fa, R513a and R450a refrigerants are used according to different ambient temperatures
- Compact design with ease of maintenance
- Heavy-duty[2], welded carbon steel body and C4 class coating
- Heavy-duty[2], welded stainless steel body
- Perfect insulation at evaporator section and A/C control panel with IP55 class protection
- Semi-Hermetic reciprocating compressor with built-in overload protection, high performance lubricant and oil heater
- Vibration absorbers on the compressor, both on discharge and suction sides
- Condenser coil is made with copper tubes and aluminum straight fins with wide fin space[3]
- Condenser coil is made with copper tubes and copper straight fins with wide fin space[3]
- Heavy duty[2] condenser fan with the protection grid
- Evaporator coil is made with copper tubes and aluminum straight fins with wide fin space[3]
- Evaporator coil is made with copper tubes and copper straight fins with wide fin space[3]
- Direct triggered radial evaporator fan with low sound level
- Thermostatic expansion valve with external equalizer
- Stainless steel drain water pan
- Pressure relief valve, liquid solenoid valve, sight glass for humidity and refrigerant level
- Liquid receiver
- Winter kit[1]
- EU4 class air filter and clogging alarm
- Electrical heater
- High/low pressure switches with aluminum body
- Remote thermostat and on/off switch with IP66 class protections
- Variant remote control and monitoring options
- Contactors, motor protection switches and circuit breakers for all motors, fire contact
- Auto switch-over and cycling[5]
- Power supply; 400VAC/3Ph/50Hz - 460VAC/3Ph/60Hz[4]

1. Available at low environmental temperatures.
2. High ambient temperature, high vibratory, dusty and corrosive environments.
3. Fin spacing is 3,6 mm. The fin spaces show differences depending of material changes on condenser and evaporator coils.
4. Variant power supplies are available, please contact us for more information.
5. This feature is applicable when more than one unit is desired to be used with keeping the next one as standby.

***Please contact us for further customization requests.**

## Nomenclature

Configure your product*

*Product Type Code* *Product Specification Code*

**VC 250 70 4 1 1 F 1 1 0 1 0**

VC Compact type
Crane Cabin Cooler

250x10= 2500 Watt (nominal)
350
420
550

4: R134a[1]
7: R227ea[3]
6: R236fa[4]
3: R513a[1]
0: R450a[2]

0: 380-420V/3Ph/50Hz

0: Electrical panel; detached, stand alone
1: Electrical panel; left side
2: Electrical panel; right side
3: Electrical panel; back side

1: Remote control and monitoring (basic)[5]
2: Remote control and monitoring (extended)[5]
3: Remote control and monitoring (pro)[5]

0: No heating
1: Electrical heating

1: Control voltage; 230 VAC/1Ph
4: Control voltage; 24VDC

1: EU4 class filter + filter installation kit
2: EU4 class filter + filter installation kit + filter clogging alarm

F: Semi-hermetic reciprocating compressor
B: Semi-hermetic reciprocating compressor
G: Semi-hermetic reciprocating compressor

0: Condenser coil with copper tubes and aluminium fins + epoxy coated
1: Condenser coil with copper tubes and fins + epoxy coated
2: Condenser coil with copper tubes and aluminium fins + electrofin coated
3: Condenser coil with copper tubes and fins + electrofin coated

0: Evaporator coil with copper tubes and aluminium fins + epoxy coated
1: Evaporator coil with copper tubes and fins + Epoxy coated
2: Evaporator coil with copper tubes and aluminium fins + electrofin coated
3: evaporator coil with copper tubes and fins + electrofin coated

0: Welded and epoxy coated carbon steel body, C4
4: Stainless steel made welded body

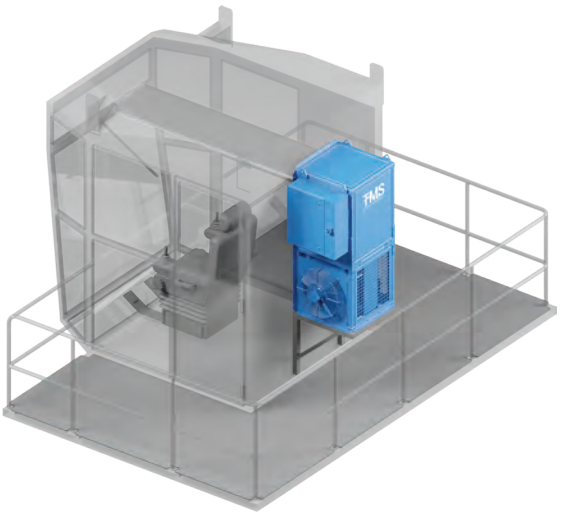
1. Up to 65°C ambient temperatures
2. Up to 75°C ambient temperatures
3. Up to 80°C ambient temperatures
4. Up to 95°C ambient temperatures
5. The remote monitoring system is provided with dry contacts supplied by relays connected to the fault outputs.

***Please contact us for further customization requests.**

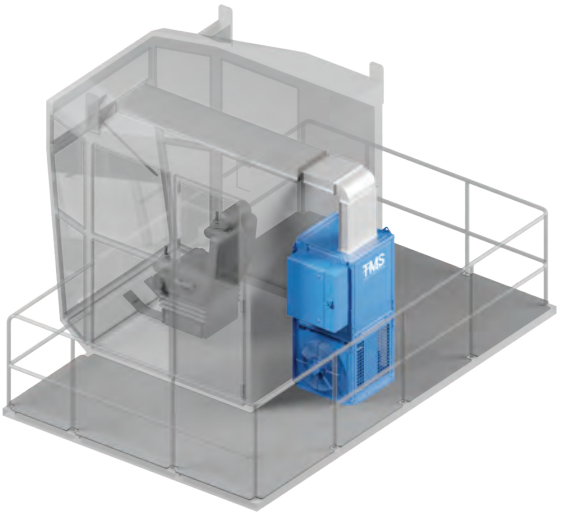
## Application Examples

### 1. Crane Cabin Applications

*Wall Mounted Unit, Operator Cabin*



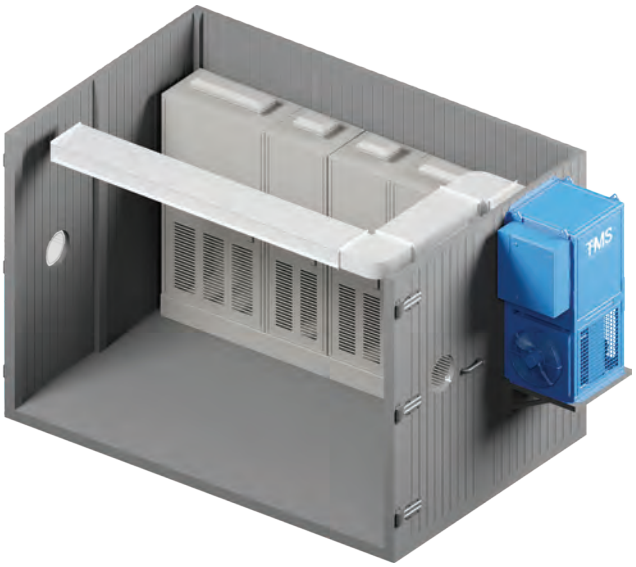

*Ground Mounted Unit, Operator Cabin*



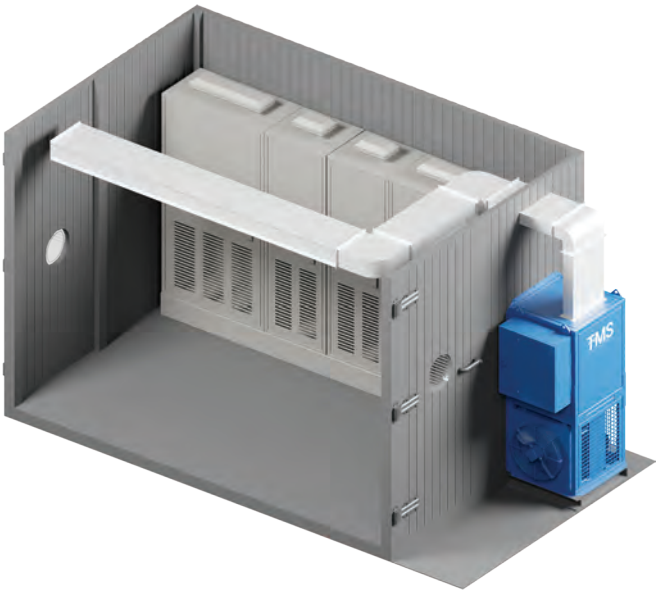

*Separately Ground Mounted Unit, Operator Cabin*


### 2. Electrical Room Applications

*Wall Mounted Unit, E-room*




*Ground Mounted Unit, E-Room*



## Technical Specifications

| | | VC250 | VC350 | VC420 | VC550 |
|---|---|---|---|---|---|
| Cooling Capacity R134a[1] | *kW* | 2,03-3,12 | 2,66-4,12 | 3,44-5,55 | 4,15-6,66 |
| Cooling Capacity, R513a[1] | *kW* | 2,21-3,34 | 2,87-4,29 | 3,81-5,9 | 4,69-7,17 |
| Cooling Capacity, R227ea[2] | *kW* | - | 2,39-4,36 | 2,57-5,31 | 3,41-6,3 |
| Cooling Capacity, R450a[2] | *kW* | - | 2,91-4,87 | 3,29-5,81 | 4,31-7,15 |
| Cooling Capacity, R236fa[3] | *kW* | - | - | 2,93-5,52 | 3,74-6,65 |
| Heating Capacity[9] | *kW* | 2.00 | 2.00 | 3.00 | 3.00 |
| Power Input, cooling mode R134a[4] | *kW* | 1.94 | 2.85 | 3.01 | 3.57 |
| Power Input, cooling mode R513a[4] | *kW* | 2.02 | 3.04 | 3.22 | 3.75 |
| Power Input, cooling mode R227ea[4] | *kW* | - | 2.64 | 3.02 | 3.80 |
| Power Input, cooling mode R450a[4] | *kW* | - | 2.67 | 3.05 | 3.75 |
| Power Input, cooling mode R236fa[4] | *kW* | - | - | 3.32 | 3.84 |
| Power Input, heating mode[9] | *kW* | 2.64 | 2.64 | 3.75 | 4.10 |
| Evaporator Air Flow Rate[5] | *$m^3/h$* | 800 | 900 | 1250 | 1800 |
| External air static pressure[6] | *Pa* | 130 | 80 | 75 | 120 |
| Dimensions (WxDxH) | *mm* | 650x875x1500 | 650x875x1500 | 750x975x1500 | 750x975x1500 |
| Net/Gross Weight[7] R134a/R513a | *kg* | 290/380 | 300/390 | 375/495 | 405/525 |
| Net/Gross Weight[7] R450a | *kg* | - | 300/390 | 375/495 | 405/525 |
| Net/Gross Weight[7] R227ea | *kg* | - | 330/420 | 405/525 | 435/555 |
| Net/Gross Weight[7] R236fa | *kg* | - | - | 430/550 | 435/555 |
| Power Supply; standard[8] | *V/Ph/Hz* | 400VAC/3Ph/50Hz | | | |

1. The cooling capacities are given in the conditions; indoor temperature between 22-35°C, outdoor temperature between 35-65°C. Please contact us for the capacity table.
2. The cooling capacities are given in the conditions; indoor temperature between 22-35°C, outdoor temperature between 35-70°C. Please contact us for the capacity table.
3. The cooling capacities are given in the conditions; indoor temperature between 22-35°C, outdoor temperature between 35-80°C. Please contact us for the capacity table.
4. Power may vary according to indoor/outdoor temperatures. Please contact us for a more detailed review on power consumption options in specific operation temperatures.
5. Air flow rate at nominal external air static pressure.
6. Pressure on the standard unit. Higher pressure variants are available, please consult us if needed.
7. Weight may vary according to changes in optional features. Gross weight is given including palette + wooden box. This value may vary depending on the packing type.
8. Standard power supply. Please contact us for different power supply options.
9. The heating mode is an optional feature for compact type units. Heating capacity values on the table are based on the standard capacities. Heating capacity may vary based on product customization.

• Operational temperature range for R134a/R513a is -15/65°C, R227ea is 0/80°C, R450a is 0/75°C and R236fa is 10/95°C. Different working temperatures are available, please contact with us.

*Global Warming Potential

| Refrigerant | GWP* |
|---|---|
| R450a | 605 |
| R513a | 631 |
| R134a | 1430 |
| R227ea | 3220 |
| R236fa | 9810 |