

AIR SYSTEMS

# VITALITY Centrifugal Large Split

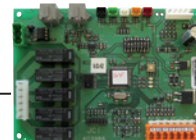
VCH-VIR 20 to 90 A



# VITALITY Centrifugal Large Split

VCH-VIR 20 to 90 A

A complete range from 16.8 kW up to 87.3 kW



**YKN2open**



## Features

- New YKN2open board
- High efficiency EER and COP
- Economizer or motorized damper
- Indoor air quality
- Hot water coil and control
- Scroll compressor with crankcase heater
- Possibility to be installed outdoor
- Return fan
- Digital thermostat DPC-1 included

**VCH 40 A**

## Nomenclature\*

A = version

Capacity range:  
40 = 40 kW

Product category:

H = Heat Pump

R = Reversible

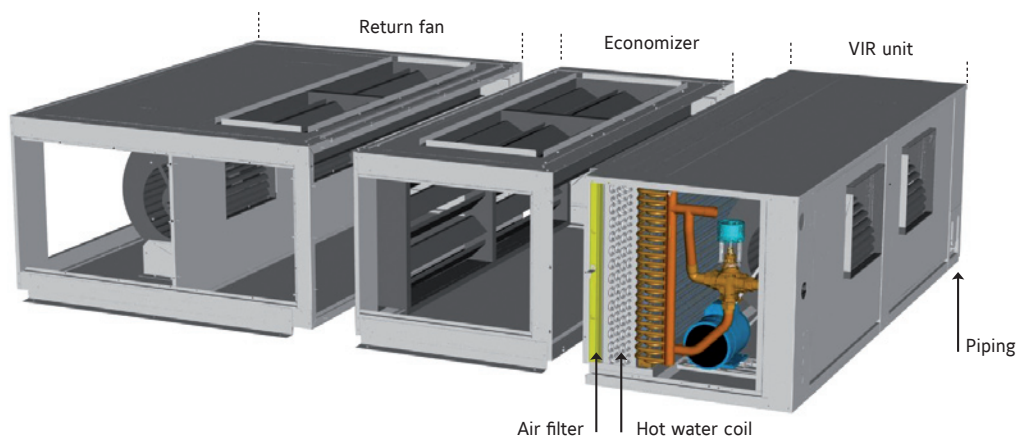
C = Centrifugal

I = Indoor

V = Vitality

\* Check codes in next page for  
discharge configuration

## VIR - Indoor unit details



# VITALITY Centrifugal Large Split

## VCH-VIR 20 to 90 A



### Technical features

| VITALITY UNITS                                  |                       |                   |         |         |         |            |            |            |            |
|-------------------------------------------------|-----------------------|-------------------|---------|---------|---------|------------|------------|------------|------------|
| Heat pump models                                | VCH/VIR               | 20                | 25      | 30      | 40      | 45         | 60         | 75         | 90         |
| Cooling capacities                              | kW                    | 16.8              | 20.6    | 28.7    | 32.4    | 43.5       | 54.1       | 76.1       | 87.3       |
| Power input in cooling                          | kW                    | 5.9               | 7.48    | 10.25   | 12.81   | 14.81      | 20.86      | 29.21      | 34.92      |
| EER                                             |                       | 2.85              | 2.75    | 2.8     | 2.53    | 2.94       | 2.6        | 2.61       | 2.5        |
| Heating capacities                              | kW                    | 21.5              | 23.2    | 32.3    | 39.3    | 47.4       | 53         | 77.7       | 89.9       |
| Power input in heating                          | kW                    | 5.68              | 6.84    | 9.95    | 12.87   | 13.75      | 20         | 27.56      | 33.19      |
| COP                                             |                       | 3.79              | 3.39    | 3.25    | 3.05    | 3.45       | 2.8        | 2.82       | 2.71       |
| Refrigerant charge on site for 7m piping length | kg                    | 8.5               | 8.5     | 12      | 12      | 2 x 9.5    | 2 x 10.5   | 2 x 15     | 2 x 16     |
| Power supply                                    |                       | 400V/3 + N/ 50Hz  |         |         |         |            |            |            |            |
| Nominal / Starting current                      | A                     | 13 /              | 16 /    | 22 /    | 27 /    | 33 /       | 43 /       | 59 /       | 72 /       |
| Main switch (1)                                 | A                     | 20                | 25      | 32      | 40      | 50         | 63         | 80         | 100        |
| Main cable to the condensing unit (1)           | Nbr x mm <sup>2</sup> | 5 x 4             | 5 x 4   | 5 x 6   | 5 x 10  | 5 x 10     | 5 x 16     | 5 x 25     | 5 x 35     |
| Interconnecting cable (1)                       | Nbr x mm <sup>2</sup> | 4 x 1.5           | 4 x 1.5 | 4 x 1.5 | 4 x 1.5 | 4 x 1.5    | 4 x 1.5    | 4 x 1.5    | 4 x 2.5    |
| Cable to standard thermostat (1) (2)            | Nbr x mm <sup>2</sup> | 10 x 0.22         |         |         |         |            |            |            |            |
| Insulated refrigerant piping                    | Suction               | 1 1/8"            | 1 1/8"  | 1 1/8"  | 1 1/8"  | 2 x 1 1/8" | 2 x 1 1/8" | 2 x 1 3/8" | 2 x 1 3/8" |
|                                                 | Liquid                | 1/2"              | 1/2"    | 5/8"    | 5/8"    | 2 x 1/2"   | 2 x 5/8"   | 2 x 7/8"   | 2 x 7/8"   |
| Evaporator fan VIR at nominal airflow (3)       | Airflow               | m <sup>3</sup> /h | 4 590   |         | 7 500   |            | 9000       | 10500      | 13700      |
|                                                 | Standard ESP          | Pa                | 117     |         | 118     |            | 130        | 137        | 125        |
|                                                 | ESP with HSD          | Pa                | -       |         | 217     |            | 188        | 246        | 260        |
|                                                 | ESP with HSDM         | Pa                | 222     |         | -       |            | 188        | 246        | 260        |
| Condenser fan at nominal airflow                | Airflow               | m <sup>3</sup> /h | 6235    | 6235    | 11975   | 11975      | 17250      | 20340      | 25200      |
|                                                 | Standard ESP          | Pa                | 50      | 50      | 50      | 50         | 50         | 50         | 50         |
|                                                 | Height                | mm                | 1392    | 1392    | 1526    | 1526       | 1641       | 1641       | 1794       |
| Nett dimensions VCH condensing units            | Length                | mm                | 1362    | 1362    | 1740    | 1740       | 2240       | 2240       | 2658       |
|                                                 | Depth                 | mm                | 790     | 790     | 785     | 785        | 778        | 778        | 897        |
|                                                 | Height                | mm                | 592     |         | 665     |            | 764        | 764        | 838        |
| Nett dimensions VIR indoor units                | Length                | mm                | 1360    |         | 1740    |            | 2240       | 2240       | 2653       |
|                                                 | Depth                 | mm                | 785     |         | 785     |            | 772        | 772        | 892        |
|                                                 | Height                | mm                |         |         |         |            |            |            |            |
| Nett weight                                     | VCH                   | kg                | 285     | 310     | 355     | 375        | 578        | 589        | 710        |
|                                                 | VIR                   | kg                | 128     |         | 173     |            | 223        | 223        | 310        |

(1) For information only. These should be checked for compliance with local regulations depending also on installation and conductor type.

(2) Shield type cable will have a better insulation against electromagnetic interference. It is recommended for sensitive sites and for communications.

(3) ESP = External static pressure HSD = High speed drive HSDM = High speed drive and motor

All the data are at EUROVENT conditions with 400V/3+N/50Hz.

Cooling : Entering indoor coil temp. 27°C / 19°C WB and outdoor temperature 35°C

Heating : Entering indoor coil temp. 20°C and outdoor temperature 7°C / 6°C WB

### Codes

| INDOOR UNITS                    |            |            |            |            |            |            |            |            |
|---------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cooling only & heat pump models | VIR 25     |            | VIR 40     |            | VIR 45     | VIR 60     | VIR 75     | VIR 90     |
|                                 | S662562574 |            | S662564074 |            | S662564574 | S662566074 | S662567574 | S662569074 |
| OUTDOOR UNITS                   |            |            |            |            |            |            |            |            |
| Heat pump models                | VCH 20     | VCH 25     | VCH 30     | VCH 40     | VCH 45     | VCH 60     | VCH 75     | VCH 90     |
| with horizontal discharge       | S662512033 | S662512643 | S662513033 | S662514054 | S662514533 | S662516143 | S662517533 | S662519033 |
| with vertical discharge         | -          | -          | -          | -          | S662514564 | S662516173 | S662517563 | S662519063 |
| Thermostat                      |            |            |            |            |            |            |            |            |
| Delivered with the unit         | DPC-1      |            |            |            |            |            |            |            |

# Accessories or options

## Compatibility table / Codes

| INDOOR UNITS                                                                           |                  |            |            |            |            |            |            |            |            |            |
|----------------------------------------------------------------------------------------|------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cooling only & heat pump models                                                        |                  |            | VIR 25     |            | VIR 40     |            | VIR 45     | VIR 60     | VIR 75     | VIR 90     |
|                                                                                        |                  |            | S662562574 |            | S662564074 |            | S662564574 | S662566074 | S662567574 | S662569074 |
| OUTDOOR UNITS                                                                          |                  |            |            |            |            |            |            |            |            |            |
| Heat pump models                                                                       |                  |            | VCH 20     | VCH 25     | VCH 30     | VCH 40     | VCH 45     | VCH 60     | VCH 75     | VCH 90     |
| with horizontal discharge                                                              |                  |            | S662512033 | S662512643 | S662513033 | S662514054 | S662514533 | S662516143 | S662517533 | S662519033 |
| with vertical discharge                                                                |                  |            | -          | -          | -          | -          | S662514564 | S662516173 | S662517563 | S662519063 |
| Thermostat                                                                             |                  |            |            |            |            |            |            |            |            |            |
| Delivered with the unit                                                                |                  |            | DPC-1      |            |            |            |            |            |            |            |
| Accessories or options for condensing units                                            |                  |            |            |            |            |            |            |            |            |            |
| VCH models                                                                             |                  | 20         | 25         | 30         | 40         | 45         | 60         | 75         | 90         |            |
| Low ambient regulation *                                                               | S613112583       | 0          | 0          |            |            |            |            |            |            |            |
|                                                                                        | S613114084       |            |            | 0          | 0          |            |            |            |            |            |
|                                                                                        | S613116084       |            |            |            |            | 0          | 0          |            |            |            |
|                                                                                        | S613111084       |            |            |            |            |            |            | 0          | 0          |            |
| Vertical discharge kit                                                                 | S612828305       | 0          | 0          |            |            |            |            |            |            |            |
|                                                                                        | S612828405       |            |            | 0          | 0          |            |            |            |            |            |
|                                                                                        | S612828505 **    |            |            |            |            | 0          |            |            |            |            |
|                                                                                        | S612828605 **    |            |            |            |            |            | 0          |            |            |            |
| Condensate tray heater                                                                 | S612828205 **    |            |            |            |            |            |            | 0          | 0          |            |
|                                                                                        | S611080789       | A          | A          | A          | A          |            |            |            |            |            |
|                                                                                        | S611080790       |            |            |            |            | A          | A          | A          | A          |            |
| Copper-copper coil                                                                     | Contact us       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          |            |
| Blue fin                                                                               | Contact us       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          |            |
| Accessories or options for indoor units                                                |                  |            |            |            |            |            |            |            |            |            |
| VIR models                                                                             |                  |            | 25         | 40         | 45         | 60         | 75         | 90         |            |            |
| Electrical Heaters<br>(inside the unit)<br>(cable 20 m included)                       | 10 kW (1 stage)  | S611763704 | O/A        |            |            |            |            |            |            |            |
|                                                                                        | 15 kW (1 stage)  | S611763714 | O/A        |            |            |            |            |            |            |            |
|                                                                                        | 10 kW (1 stage)  | S611763724 |            | O/A        |            |            |            |            |            |            |
|                                                                                        | 20 kW (2 stages) | S611763734 |            | O/A        |            |            |            |            |            |            |
|                                                                                        | 15 kW (1 stage)  | S611763744 |            |            | O/A        | O/A        |            |            |            |            |
|                                                                                        | 30 kW (2 stages) | S611763754 |            |            | O/A        | O/A        |            |            |            |            |
|                                                                                        | 30 kW (2 stages) | S611763764 |            |            |            |            | O/A        | O/A        |            |            |
|                                                                                        | 40 kW (2 stages) | S611763774 |            |            |            |            | O/A        | O/A        |            |            |
| 50 m connecting cable                                                                  | 1 stage          | S611763780 | A          | A          | A          | A          |            |            |            |            |
|                                                                                        | 2 stages         | S611763781 |            | A          | A          | A          | A          | A          | A          |            |
| Economizer or Motorised damper<br>(dry bulb sensors included)<br>(cable 20 m included) | S613994250       | A          |            |            |            |            |            |            |            |            |
|                                                                                        | S613994400       |            | A          |            |            |            |            |            |            |            |
|                                                                                        | S613994450       |            |            | A          | A          |            |            |            |            |            |
|                                                                                        | S613994750       |            |            |            |            |            | A          | A          |            |            |
| Indoor air quality                                                                     | S606819964       | A          | A          | A          | A          | A          | A          | A          | A          |            |
|                                                                                        | S611082513       | 0          |            |            |            |            |            |            |            |            |
| Hot water coil and control<br>(cable 20 m included)                                    | S611084010       |            | 0          |            |            |            |            |            |            |            |
|                                                                                        | S611084512       |            |            |            | 0          | 0          |            |            |            |            |
|                                                                                        | S611087510       |            |            |            |            |            | 0          | 0          |            |            |
| 50 m communication cable (Economizer/HWC)                                              | S611087520 ***   | A          | A          | A          | A          | A          | A          | A          | A          |            |
| Return fan                                                                             | S613995450       |            |            |            | A          | A          |            |            |            |            |
|                                                                                        | S613995750       |            |            |            |            |            |            | A          | A          |            |
| Vertical discharge Kit                                                                 | S669482502       | 0          |            |            |            |            |            |            |            |            |
|                                                                                        | S669484002       |            | 0          |            |            |            |            |            |            |            |
|                                                                                        | S669486002       |            |            |            | 0          | 0          |            |            |            |            |
|                                                                                        | S669487502       |            |            |            |            |            | 0          | 0          |            |            |
| Indoor fan smooth start up to 5,5 kW                                                   | S606744690       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          |            |
|                                                                                        | S611991087       | 0          |            |            |            |            |            |            |            |            |
| High speed drive                                                                       | S611991089       |            | 0          |            |            |            |            |            |            |            |
|                                                                                        | S611991091       |            |            |            | 0          |            | 0          |            |            |            |
|                                                                                        | S611991092       |            |            |            |            | 0          |            |            |            |            |
|                                                                                        | S611991095       |            |            |            |            |            |            |            | 0          |            |
| High speed drive and motor                                                             | S611991088       | 0          |            |            |            |            |            |            |            |            |
|                                                                                        | S611991090       |            |            |            | 0          |            |            |            |            |            |
|                                                                                        | S611991093       |            |            |            |            | 0          |            |            |            |            |
|                                                                                        | S611991094       |            |            |            |            |            | 0          |            |            |            |
|                                                                                        | S611991096       |            |            |            |            |            |            |            | 0          |            |

O = Option (factory fitted). A = Accessory (supplied loose). O/A = If you want this item factory fitted, precise it in the order form.

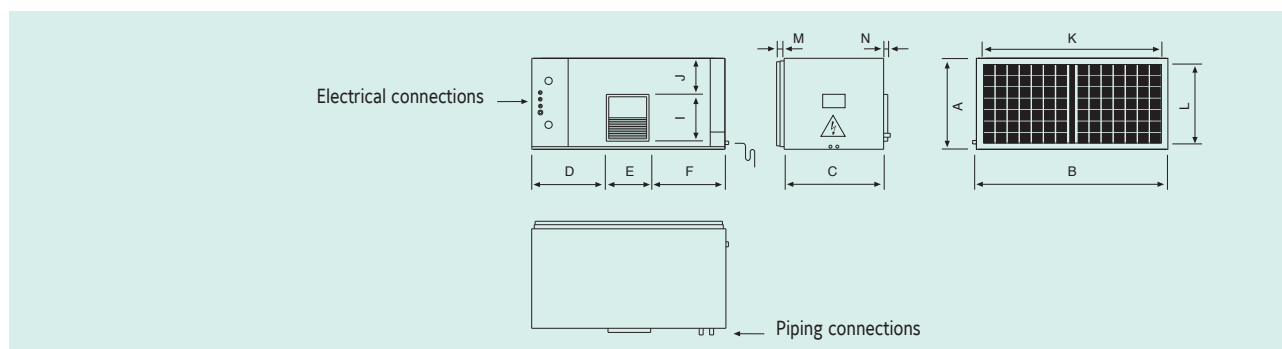
\* Not protected against external condition. \*\* To be used only with horizontal discharge models

\*\*\* If the unit is equipped with economizer and hot water coil, only 1 communication cable is necessary.

# Indoor units dimensions



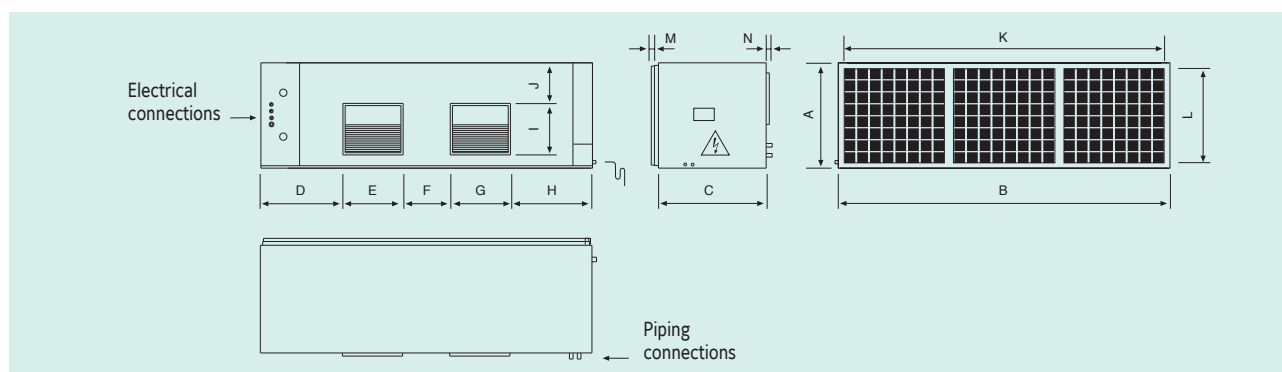
## VIR 25A



All dimensions in mm. Drawings not a scale.

| Unit   | A   | B    | C   | D   | E   | F   | G | H | I   | J  | K    | L   | M  | N  |
|--------|-----|------|-----|-----|-----|-----|---|---|-----|----|------|-----|----|----|
| VIR25A | 592 | 1360 | 785 | 480 | 403 | 480 | - | - | 347 | 40 | 1094 | 520 | 21 | 25 |

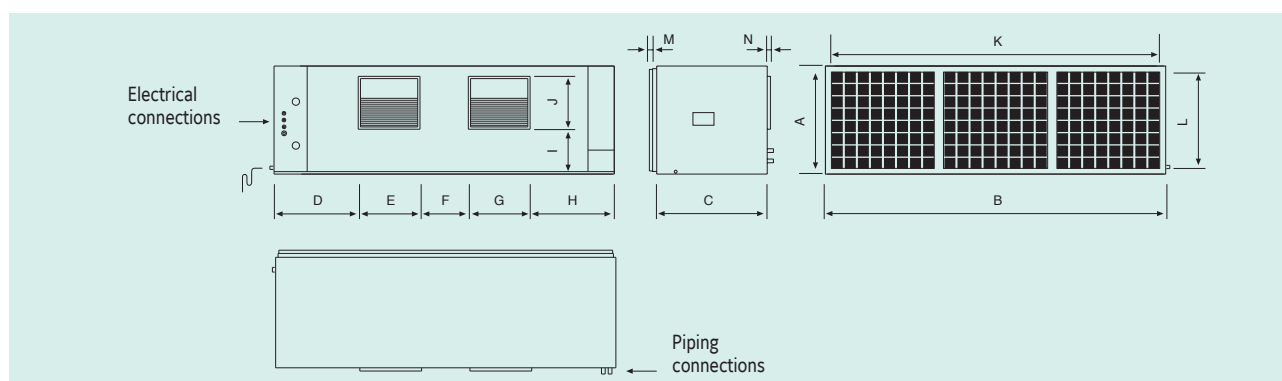
## VIR 40-45-60A



All dimensions in mm. Drawings not a scale.

| Unit   | A   | B    | C   | D   | E   | F   | G   | H   | I   | J  | K    | L   | M  | N  |
|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|----|------|-----|----|----|
| VIR40A | 665 | 1740 | 785 | 442 | 316 | 229 | 316 | 442 | 347 | 79 | 1337 | 593 | 21 | 25 |
| VIR45A | 764 | 2240 | 772 | 567 | 401 | 309 | 401 | 567 | 347 | 79 | 1920 | 692 | 21 | 25 |
| VIR60A | 764 | 2240 | 772 | 567 | 401 | 309 | 401 | 567 | 347 | 79 | 1920 | 692 | 21 | 25 |

## VIR 75-90A

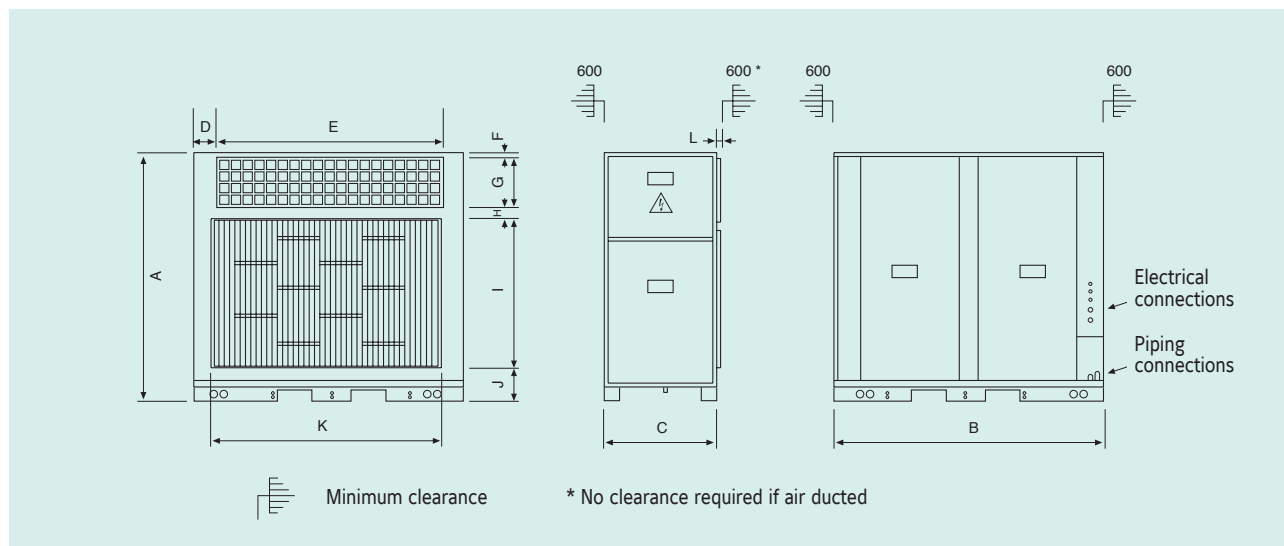


All dimensions in mm. Drawings not a scale.

| Unit   | A   | B    | C   | D   | E   | F   | G   | H   | I   | J  | K    | L   | M  | N  |
|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|----|------|-----|----|----|
| VIR75A | 838 | 2653 | 892 | 663 | 478 | 376 | 478 | 663 | 409 | 79 | 2196 | 766 | 21 | 25 |
| VIR90A | 838 | 2653 | 892 | 663 | 478 | 376 | 478 | 663 | 409 | 79 | 2196 | 766 | 21 | 25 |

# Dimensions and space requirements for condensing units

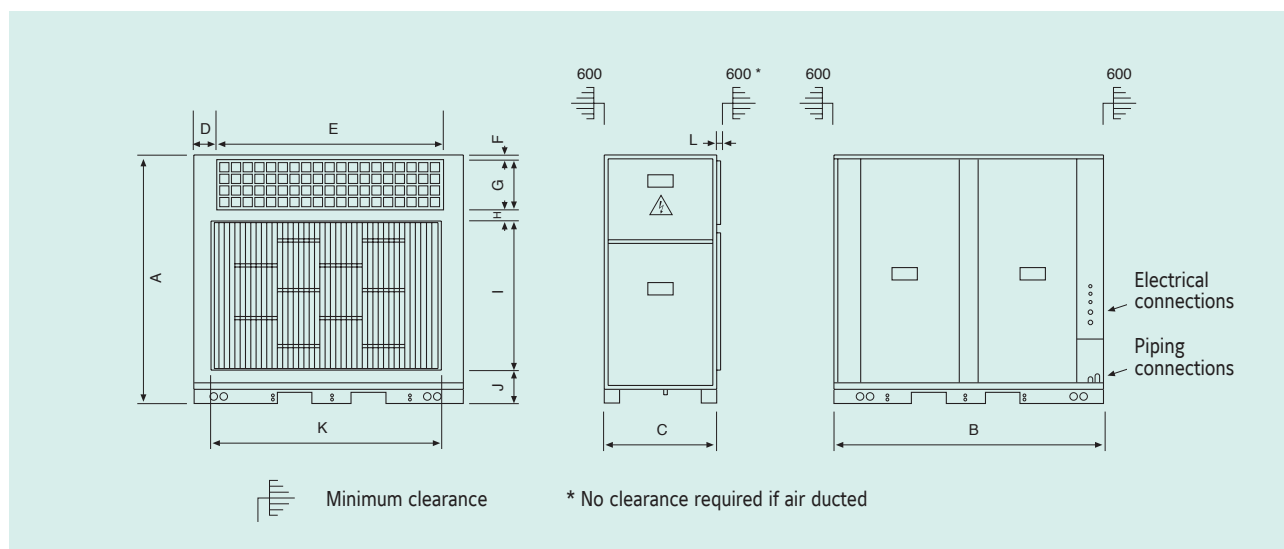
## VCH 20-25A



All dimensions in mm. Drawings not a scale.

| Unit   | A     | B     | C   | D   | E     | F  | G   | H  | I   | J   | K     | L  |
|--------|-------|-------|-----|-----|-------|----|-----|----|-----|-----|-------|----|
| VCH20A | 1 392 | 1 362 | 790 | 147 | 1 069 | 30 | 268 | 37 | 919 | 138 | 1 100 | 24 |
| VCH25A | 1 392 | 1 362 | 790 | 147 | 1 069 | 30 | 268 | 37 | 919 | 138 | 1 100 | 24 |

## VCH 30-40A



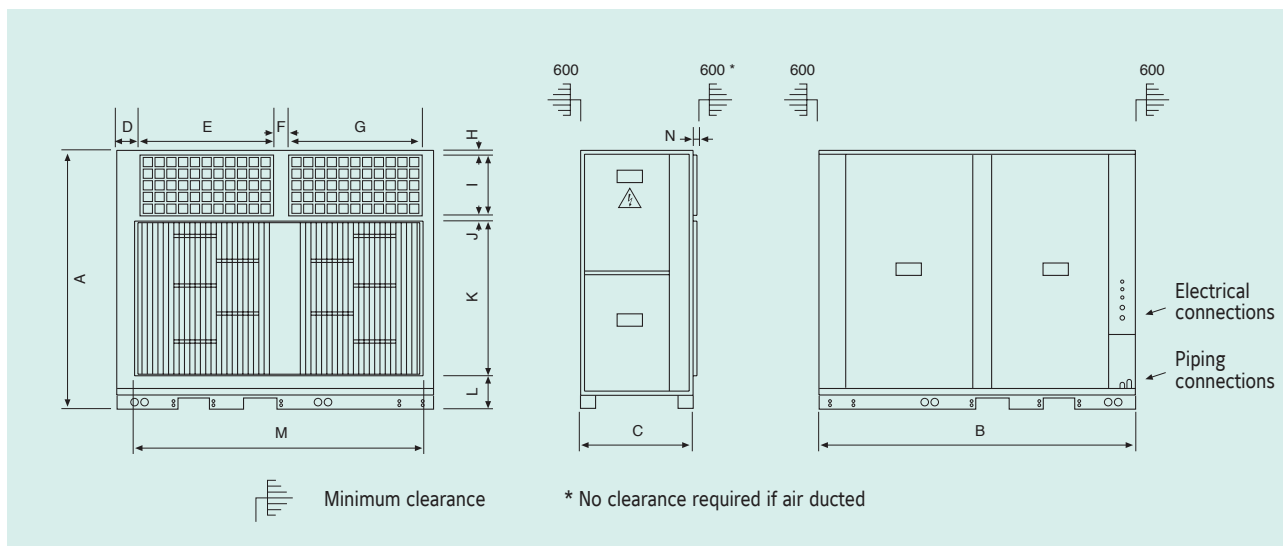
All dimensions in mm. Drawings not a scale.

| Unit   | A     | B     | C   | D   | E     | F  | G   | H  | I   | J   | K     | L  |
|--------|-------|-------|-----|-----|-------|----|-----|----|-----|-----|-------|----|
| VCH30A | 1 526 | 1 740 | 785 | 151 | 1 436 | 30 | 324 | 37 | 994 | 141 | 1 476 | 24 |
| VCH40A | 1 526 | 1 740 | 785 | 151 | 1 436 | 30 | 324 | 37 | 994 | 141 | 1 476 | 24 |





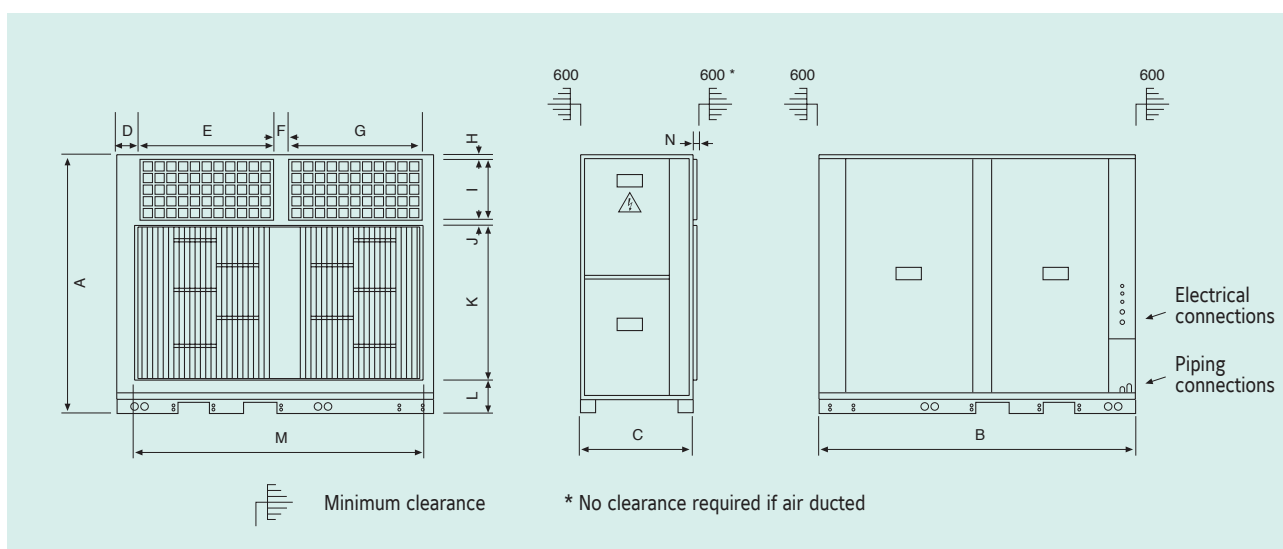
## VCH 45-60A



All dimensions in mm. Drawings not a scale.

| Unit   | A     | B     | C   | D   | E   | F  | G   | H  | I   | J  | K    | L   | M     | N  |
|--------|-------|-------|-----|-----|-----|----|-----|----|-----|----|------|-----|-------|----|
| VCH45A | 1 641 | 2 240 | 778 | 148 | 945 | 95 | 945 | 38 | 389 | 38 | 1044 | 140 | 2 060 | 23 |
| VCH60A | 1 641 | 2 240 | 778 | 148 | 945 | 95 | 945 | 38 | 389 | 38 | 1044 | 140 | 2 060 | 23 |

## VCH 75-90A



All dimensions in mm. Drawings not a scale.

| Unit   | A     | B     | C   | D   | E    | F  | G    | H  | I   | J  | K     | L   | M     | N  |
|--------|-------|-------|-----|-----|------|----|------|----|-----|----|-------|-----|-------|----|
| VCH75A | 1 794 | 2 658 | 897 | 148 | 1155 | 95 | 1155 | 30 | 389 | 37 | 1 200 | 138 | 2 479 | 23 |
| VCH90A | 1 794 | 2 658 | 897 | 148 | 1155 | 95 | 1155 | 30 | 389 | 37 | 1 200 | 138 | 2 479 | 23 |

