

HELPMAN

Air cooled Condensers

HTC

New condenser generation with better performance

Capacities 9 - 1060 kW



Ripple Fin® tubing

Floating coil block suspension

Eurovent certified

**Capacities based on
ENV 327 voor R404A**

EUROVENT
CERTIFIED PERFORMANCE



CERTIFY-ALL

*DX Air Coolers
Air Cooled Condensers
Dry Coolers

Air Cooled Condensers

HTC

Contents

| Page | |
|--------|--|
| 3 | General information |
| 4 - 11 | Nominal duty air flow, sound levels technical data, dimensions |
| 12 | Fan types Fan motors |
| 13 | Capacity calculation Correction factors |
| 14 | Extended feet Additional information |

Certified by Eurovent

HTC aircooled condensers are tested and certified by Eurovent according to ENV 327 European standard.

This extensive testing procedure comprises :

- capacities under standardised conditions
- air flow data
- sound levels
- fan capacities

Type indication

Example : **HTC 076 . 124 - 930**

- HTC** : Aircooled condenser with Cu/Al coil block
- 076** : Condenser type
There are 5 basic types with different fan diameters
- 1••** : Number of separated coils
- 2•** : Number of fans per coil
- 4** : Number of tube rows in air direction
- 930** : Fan speed

Air Cooled Condensers

HTC



General

The HTC aircooled condenser range includes 5 basic types covering a total of 137 models with 1 to 12 fans and duties from 9 to 1060 kW at 15 K temperature difference.

Design

| | |
|----------------|--|
| Coil block | : Copper Ripple Fin® tubing with aluminium fins. |
| Tube diameter | : 1/2" |
| Tube thickness | : 0.65 mm/0.4 mm (min.) |
| Tube pitch | : 50 x 50 mm triangle |
| Fin spacing | : 2.25 mm |

Other fin spacings up to 4 mm available on request.

Coil blocks are pressure tested at 28 bar dry air.

Casing and framework are of pregalvanised sheet steel (Sendzimir) with an epoxy coating on both sides. Colour scheme: light-grey RAL 7035, mounting feet models 076, 090, 091 and 100, dark-grey RAL 7016. Other colours are available at an extra price. All condensers are provided with removable header panels.

Floating construction of the condenser coil block. On request the condensers can be fitted with inspection hatches (extra price).

Air direction

Condensers type HTC can be supplied for horizontal or vertical air flow.

Condenser models 050 :

Standard horizontal air flow, vertical air flow with special refrigerant circuiting. All models are fitted with mounting profiles.

Condenser models 076, 090, 091 and 100 :

Standard vertical air flow. On request also available for horizontal air flow.

When ordering without air flow indication, the standard execution will be supplied.

Corrosion protection

The standard condensers have a high corrosion resistance through selected materials, surface treatment and construction. For application in aggressive surroundings (coastal-and industrial areas) following designs are available at an extra charge:

- fins of seawater resistant aluminium alloy (57S/5052)
- fins of prepainted aluminium
- finned coil coated after assembling

Application as liquid cooler (Dry - Cooler)

The condenser can also be used as liquid cooler, for instance cooling down of cooling water in watercooled plants.

Technical information on request, see brochure nr. 53.08 (Dry Coolers HTD).

Air Cooled Condensers

HTC

Capacities HTC 1..

| Type | Capacity kW | Airflow m ³ /h | dB(A) | Capacity kW | Airflow m ³ /h | dB(A) | Cap. | AirflowdB(A) | Cap. | AirflowdB(A) | | | | |
|-----------------|--------------------|---------------------------|-------|--------------------------|---------------------------|-------|--------------------|-------------------|-------|--------------------|------|-------|-------|----|
| HTC | H | H | H | H L | H L | H/L | kW | m ³ /h | kW | m ³ /h | | | | |
| HTC 050 | n = 910 rpm | | | n = 1420 rpm | | | n = 690 rpm | | | n = 470 rpm | | | | |
| 050 . 112 - ... | 14.0 | 5030 | 44 | 16.3 | 6640 | 55 | 12.5 | 4100 | 40 | 9.3 | 2530 | 31 | | |
| 050 . 113 - ... | 17.6 | 4860 | 44 | 20.9 | 6400 | 55 | 16.1 | 3950 | 40 | 11.1 | 2380 | 31 | | |
| 050 . 114 - ... | 19.8 | 4660 | 44 | 23.9 | 6200 | 55 | 16.4 | 3620 | 40 | 11.5 | 2160 | 31 | | |
| 050 . 122 - ... | 28.3 | 10100 | 47 | 33.0 | 13300 | 58 | 25.1 | 8200 | 43 | 18.5 | 5050 | 34 | | |
| 050 . 123 - ... | 37.3 | 9730 | 47 | 44.5 | 12800 | 58 | 32.4 | 7900 | 43 | 22.4 | 4770 | 34 | | |
| 050 . 124 - ... | 39.7 | 9310 | 47 | 48.2 | 12400 | 58 | 35.0 | 7240 | 43 | 23.0 | 4320 | 34 | | |
| 050 . 132 - ... | 45.1 | 15100 | 49 | 46.3 | 19900 | 60 | 40.0 | 12300 | 45 | 29.2 | 7580 | 36 | | |
| 050 . 133 - ... | 56.2 | 14600 | 49 | 67.1 | 19200 | 60 | 48.8 | 11900 | 45 | 34.6 | 7150 | 36 | | |
| 050 . 134 - ... | 62.5 | 14000 | 49 | 76.4 | 18600 | 60 | 51.6 | 10900 | 45 | 35.2 | 6480 | 36 | | |
| 050 . 143 - ... | 75.1 | 19500 | 50 | 89.8 | 25600 | 61 | 66.6 | 15800 | 46 | 46.1 | 9540 | 37 | | |
| 050 . 144 - ... | 85.3 | 18600 | 50 | 96.5 | 24800 | 61 | 70.5 | 14500 | 46 | 46.1 | 8640 | 37 | | |
| HTC 076 | n = 930 rpm | | | n = 935 / 425 rpm | | | n = 690 rpm | | | n = 325 rpm | | | | |
| 076 . 112 - ... | 36.8 | 14700 | 53 | 36.8 | 22.8 | 14700 | 7280 | 53/39 | 30.4 | 10400 | 46 | 20.2 | 6000 | 33 |
| 076 . 113 - ... | 47.6 | 13900 | 53 | 47.6 | 28.3 | 13900 | 7110 | 53/39 | 38.2 | 9790 | 46 | 22.9 | 5300 | 33 |
| 076 . 114 - ... | 52.1 | 13100 | 53 | 52.1 | 31.9 | 13100 | 6950 | 53/39 | 43.0 | 9290 | 46 | 23.1 | 4650 | 33 |
| 076 . 122 - ... | 74.0 | 29300 | 56 | 74.0 | 48.5 | 29300 | 14600 | 56/42 | 60.9 | 20700 | 49 | 40.4 | 12000 | 36 |
| 076 . 123 - ... | 96.0 | 27700 | 56 | 96.0 | 59.0 | 27700 | 14200 | 56/42 | 76.3 | 19600 | 49 | 45.8 | 10600 | 36 |
| 076 . 124 - ... | 110.7 | 26200 | 56 | 110.7 | 64.2 | 26200 | 13900 | 56/42 | 86.4 | 18600 | 49 | 46.2 | 9300 | 36 |
| 076 . 132 - ... | 115.0 | 44000 | 58 | 115.0 | 70.7 | 44000 | 21900 | 58/44 | 94.3 | 31100 | 51 | 60.6 | 18000 | 38 |
| 076 . 133 - ... | 144.1 | 41600 | 58 | 144.1 | 88.1 | 41600 | 21300 | 58/44 | 119.5 | 29400 | 51 | 68.7 | 15900 | 38 |
| 076 . 134 - ... | 161.1 | 39400 | 58 | 161.1 | 97.0 | 39400 | 20900 | 58/44 | 126.3 | 27900 | 51 | 69.3 | 13950 | 38 |
| 076 . 142 - ... | 141.2 | 58600 | 59 | 141.2 | 97.6 | 58600 | 29100 | 59/45 | 129.9 | 41500 | 52 | 80.8 | 24000 | 39 |
| 076 . 143 - ... | 199.0 | 55400 | 59 | 199.0 | 116.4 | 55400 | 28400 | 59/45 | 158.0 | 39200 | 52 | 91.6 | 21200 | 39 |
| 076 . 144 - ... | 222.1 | 52500 | 59 | 222.1 | 127.0 | 52500 | 27800 | 59/45 | 173.0 | 37200 | 52 | 92.4 | 18600 | 39 |
| 076 . 152 - ... | 185.8 | 73300 | 60 | 185.8 | 123.8 | 73300 | 36400 | 60/46 | 152.5 | 51800 | 53 | 101.0 | 30000 | 40 |
| 076 . 153 - ... | 247.4 | 69300 | 60 | 247.4 | 148.3 | 69300 | 35600 | 60/46 | 200.9 | 49000 | 53 | 114.5 | 26500 | 40 |
| 076 . 154 - ... | 281.7 | 65600 | 60 | 281.7 | 161.5 | 65600 | 34800 | 60/46 | 219.8 | 46400 | 53 | 115.5 | 23250 | 40 |
| 076 . 162 - ... | 230.8 | 87900 | 61 | 230.8 | 141.6 | 87900 | 43700 | 61/47 | 188.9 | 62200 | 54 | 121.2 | 36000 | 41 |
| 076 . 163 - ... | 301.3 | 83200 | 61 | 301.3 | 179.1 | 83200 | 42700 | 61/47 | 229.9 | 58700 | 54 | 137.4 | 31800 | 41 |
| 076 . 164 - ... | 322.9 | 78700 | 61 | 322.9 | 194.3 | 78700 | 41700 | 61/47 | 252.7 | 55700 | 54 | 138.6 | 27900 | 41 |

H = High fan speed

L = Low fan speed

Air Cooled Condensers

HTC

Technical Data HTC 1..

| Type HTC | Refrigerant conn. mm | Int. vol. dm ³ | Sur- face m ² | Weight kg | Dimensions mm | | | |
|----------------------------------|-------------------------|------------------------------|--------------------------------|--------------|---------------|------|------|--------|
| | | | | | A | B | C | D |
| HTC 050 n = 910 rpm | | | | | | | | |
| 050.112-... | 1 x 22 | 5 | 47 | 43 | | | | |
| 050.113-... | 1 x 22 | 7 | 70 | 52 | 1060 | 830 | | |
| 050.114-... | 1 x 22 | 9 | 93 | 61 | | | | |
| 050.122-... | 1 x 22 | 8 | 93 | 84 | | | | |
| 050.123-... | 1 x 28 | 12 | 140 | 101 | 1860 | 1630 | | |
| 050.124-... | 1 x 28 | 16 | 187 | 118 | | | | |
| 050.132-... | 1 x 28 | 11 | 140 | 125 | | | | |
| 050.133-... | 1 x 35 | 16 | 210 | 150 | 2660 | 2430 | | |
| 050.134-... | 1 x 35 | 22 | 280 | 176 | | | | |
| 050.143-... | 1 x 35 | 24 | 280 | 203 | | | | |
| 050.144-... | 1 x 42 | 31 | 373 | 237 | 3460 | 3230 | | |
| HTC 076 n = 930 rpm | | | | | | | | |
| 076.112-... | 1 x 28 | 9 | 102 | 128 | | | | |
| 076.113-... | 1 x 28 | 13 | 153 | 146 | 2000 | 1340 | | 1x1400 |
| 076.114-... | 1 x 28 | 17 | 204 | 165 | | | | |
| 076.122-... | 1 x 35 | 16 | 204 | 253 | | | | |
| 076.123-... | 1 x 42 | 24 | 306 | 290 | 3400 | 2740 | | 2x1400 |
| 076.124-... | 1 x 42 | 31 | 408 | 326 | | | | |
| 076.132-... | 1 x 42 | 25 | 306 | 381 | | | | |
| 076.133-... | 1 x 54 | 36 | 459 | 436 | 4800 | 4140 | | 3x1400 |
| 076.134-... | 1 x 54 | 49 | 612 | 492 | | | | |
| 076.142-... | 1 x 54 | 32 | 408 | 506 | | | | |
| 076.143-... | 1 x 54 | 48 | 612 | 580 | 6200 | 5540 | 2740 | 4x1400 |
| 076.144-... | 1 x 67 | 63 | 817 | 653 | | | | |
| 076.152-... | 1 x 54 | 39 | 510 | 632 | | | | |
| 076.153-... | 1 x 67 | 58 | 766 | 723 | 7600 | 6940 | 4140 | 5x1400 |
| 076.154-... | 1 x 67 | 77 | 1021 | 814 | | | | |
| 076.162-... | 1 x 67 | 46 | 612 | 757 | | | | |
| 076.163-... | 1 x 67 | 69 | 919 | 866 | 9000 | 8340 | 4140 | 6x1400 |
| 076.164-... | 1 x 67 | 91 | 1225 | 974 | | | | |
| HTC 090 n = 850 / 610 rpm | | | | | | | | |
| 090.112-... | 1 x 28 | 10 | 122 | 230 | | | | |
| 090.113-... | 1 x 35 | 16 | 184 | 253 | 2000 | 1340 | | 1x1400 |
| 090.114-... | 1 x 35 | 21 | 245 | 275 | | | | |
| 090.122-... | 1 x 42 | 19 | 245 | 458 | | | | |
| 090.123-... | 1 x 54 | 28 | 367 | 501 | 3400 | 2740 | | 2x1400 |
| 090.124-... | 1 x 54 | 38 | 490 | 545 | | | | |
| 090.132-... | 1 x 54 | 30 | 367 | 688 | | | | |
| 090.133-... | 1 x 67 | 44 | 551 | 755 | 4800 | 4140 | | 3x1400 |
| 090.134-... | 1 x 67 | 59 | 735 | 821 | | | | |
| 090.142-... | 1 x 67 | 38 | 490 | 916 | | | | |
| 090.143-... | 1 x 80 | 57 | 735 | 1003 | 6200 | 5540 | 2740 | 4x1400 |
| 090.144-... | 1 x 80 | 76 | 980 | 1091 | | | | |
| 090.152-... | 1 x 67 | 46 | 612 | 1143 | | | | |
| 090.153-... | 1 x 80 | 70 | 919 | 1252 | 7600 | 6940 | 4140 | 5x1400 |
| 090.154-... | 1 x 80 | 93 | 1226 | 1361 | | | | |

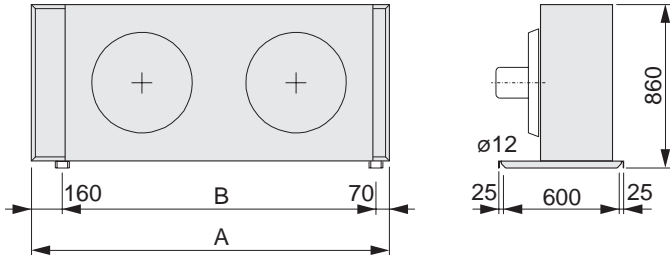
Technical Data HTC 1..

| Type HTC | Refrigerant conn. mm | Int. vol. dm ³ | Sur- face m ² | Weight kg | Dimensions mm | | | |
|----------------------------------|-------------------------|------------------------------|--------------------------------|--------------|---------------|------|------|--------|
| | | | | | A | B | C | D |
| HTC 091 n = 850 / 610 rpm | | | | | | | | |
| 091.112-... | 1 x 35 | 13 | 152 | 251 | | | | |
| 091.113-... | 1 x 42 | 19 | 228 | 279 | 2350 | 1690 | | 1x1750 |
| 091.114-... | 1 x 42 | 25 | 304 | 307 | | | | |
| 091.122-... | 1 x 54 | 25 | 304 | 502 | | | | |
| 091.123-... | 1 x 54 | 38 | 457 | 558 | 4100 | 3440 | | 2x1750 |
| 091.124-... | 1 x 54 | 51 | 607 | 614 | | | | |
| 091.132-... | 1 x 67 | 36 | 455 | 750 | | | | |
| 091.133-... | 1 x 67 | 54 | 685 | 832 | 5850 | 5190 | | 3x1750 |
| 091.134-... | 1 x 80 | 72 | 911 | 915 | | | | |
| 091.142-... | 1 x 67 | 46 | 607 | 998 | | | | |
| 091.143-... | 1 x 80 | 70 | 913 | 1107 | 7600 | 6940 | 3440 | 4x1750 |
| 091.144-... | 1 x 80 | 93 | 1214 | 1216 | | | | |
| 091.152-... | 1 x 80 | 57 | 759 | 1246 | | | | |
| 091.153-... | 1 x 80 | 86 | 1142 | 1382 | 9350 | 8690 | 5190 | 5x1750 |
| 091.154-... | 1 x 80 | 114 | 1518 | 1518 | | | | |
| HTC 100 n = 670 / 520 rpm | | | | | | | | |
| 100.112-... | 1 x 35 | 13 | 152 | 251 | | | | |
| 100.113-... | 1 x 35 | 19 | 228 | 279 | 2350 | 1690 | | 1x1750 |
| 100.114-... | 1 x 42 | 25 | 304 | 307 | | | | |
| 100.122-... | 1 x 42 | 25 | 304 | 502 | | | | |
| 100.123-... | 1 x 54 | 38 | 457 | 558 | 4100 | 3440 | | 2x1750 |
| 100.124-... | 1 x 54 | 51 | 607 | 614 | | | | |
| 100.132-... | 1 x 54 | 36 | 455 | 750 | | | | |
| 100.133-... | 1 x 67 | 54 | 685 | 832 | 5850 | 5190 | | 3x1750 |
| 100.134-... | 1 x 67 | 72 | 911 | 915 | | | | |
| 100.142-... | 1 x 67 | 46 | 607 | 998 | | | | |
| 100.143-... | 1 x 67 | 70 | 913 | 1107 | 7600 | 6940 | 3440 | 4x1750 |
| 100.144-... | 1 x 80 | 93 | 1214 | 1216 | | | | |
| 100.152-... | 1 x 67 | 57 | 759 | 1246 | | | | |
| 100.153-... | 1 x 80 | 86 | 1142 | 1382 | 9350 | 8690 | 5190 | 5x1750 |
| 100.154-... | 1 x 80 | 114 | 1518 | 1518 | | | | |
| HTC 100 n = 420 / 310 rpm | | | | | | | | |
| 100.112-... | 1 x 35 | 13 | 152 | 251 | | | | |
| 100.113-... | 1 x 35 | 19 | 228 | 279 | 2350 | 1690 | | 1x1750 |
| 100.114-... | 1 x 35 | 25 | 304 | 307 | | | | |
| 100.122-... | 1 x 42 | 25 | 304 | 502 | | | | |
| 100.123-... | 1 x 54 | 38 | 457 | 558 | 4100 | 3440 | | 2x1750 |
| 100.124-... | 1 x 54 | 51 | 607 | 614 | | | | |
| 100.132-... | 1 x 54 | 36 | 455 | 750 | | | | |
| 100.133-... | 1 x 54 | 54 | 685 | 832 | 5850 | 5190 | | 3x1750 |
| 100.134-... | 1 x 54 | 72 | 911 | 915 | | | | |
| 100.142-... | 1 x 54 | 46 | 607 | 998 | | | | |
| 100.143-... | 1 x 67 | 70 | 913 | 1107 | 7600 | 6940 | 3440 | 4x1750 |
| 100.144-... | 1 x 67 | 93 | 1214 | 1216 | | | | |
| 100.152-... | 1 x 67 | 57 | 759 | 1246 | | | | |
| 100.153-... | 1 x 67 | 86 | 1142 | 1382 | 9350 | 8690 | 5190 | 5x1750 |
| 100.154-... | 1 x 80 | 114 | 1518 | 1518 | | | | |

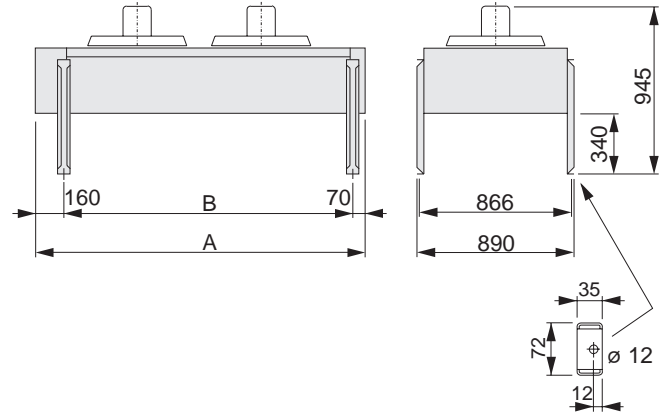
Air Cooled Condensers

HTC

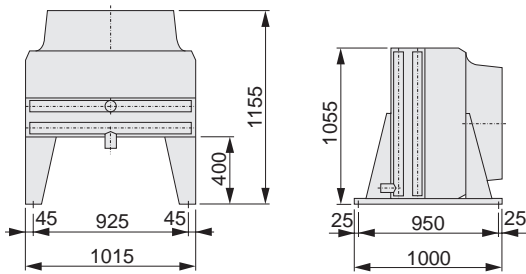
HTC 050 . 1•• Horizontal Air Direction



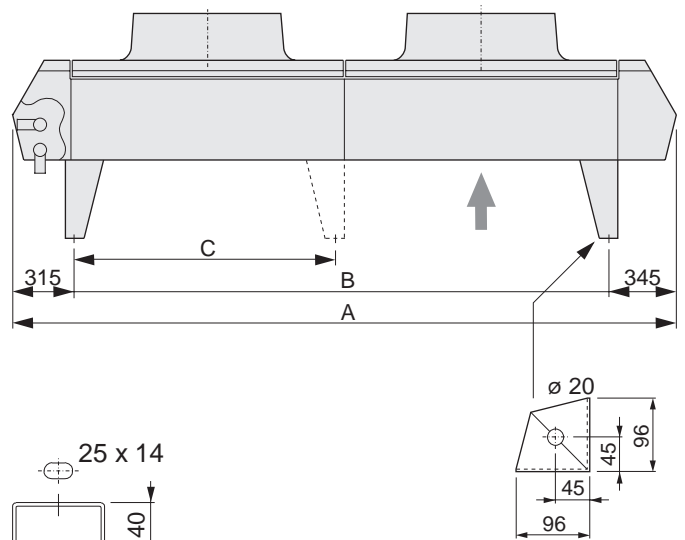
HTC 050 . 1•• Vertical Air Direction



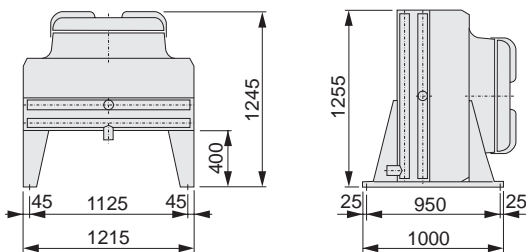
HTC 076 . 1••



HTC 076 / 090 / 091 / 100 . 1••
Vertical Air Direction

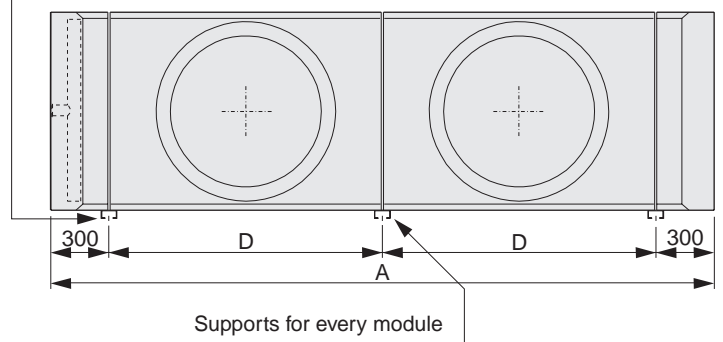
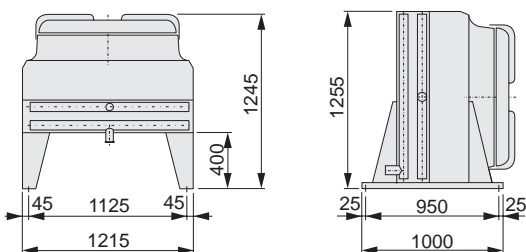


HTC 090 / 091 . 1••



HTC 076 / 090 / 091 / 100 . 1••
Horizontal Air Direction

HTC 100 . 1••



Air Cooled Condensers

HTC

Fan types

All fan types have corrosion resistant fan blades and fan guards.

HTC Type 050

Fans ø 508 mm, complete with protection guards and anti vibration mountings.

Standard execution with fan motors type 050.910.

Terminal boxes are provided with 2 cable inlets M20 x 1.5.

HTC Type 076

Fans ø 762 mm mounted on a motor support.

Fan guards are integrated in the fan plate.

Standard execution with fan motors type 076.930.

Motors are wired to one or more common terminal boxes. The terminal boxes are located on the endplate at the liquid header end of the coil.

HTC Type 090 / 091

Fans ø 900 mm, fan motors integrated with guards and mounted to fan discharge hood.

HTC Type 100

Similar in construction to type 090 / 091, fan diameter however 1000 mm.

All fan motors of HTC models **090**, **091** and **100** are equipped with an overload protector built in the windings. Via terminals in the terminal box this internal protector **must** be used in the control current circuit. The electrical control should be arranged in such a way that continuous on/off switching of the motors ('tripping') is prevented.

When the condensers are out of use for longer periods, the motors have to be switched on for at least 2 hours every month.

HTC Type 050 - 100

For application at ambient temperatures above 40 °C : special motors on request.

Fan motors

| Motor type | Number of poles | rpm | Capacity | | Motor voltage Volt | Thermal overload relay settings (A) * 230 / 400 |
|------------|-----------------|-----|--------------|---------------|--------------------|--|
| | | | nominal Watt | absorbed Watt | | |

HTC type 050 (enclosed design, IP-55)

| | | | | | | |
|------------|----|------|-----|-----|--------------|-------------|
| 050 . 910 | 6 | 910 | 180 | 350 | 230/400/50/3 | 1.49 / 0.86 |
| 050 . 690 | 8 | 690 | 120 | 250 | 230/400/50/3 | 1.16 / 0.67 |
| 050 . 470 | 12 | 470 | 25 | 100 | 230/400/50/3 | 0.55 / 0.32 |
| 050 . 1420 | 4 | 1420 | 370 | 600 | 230/400/50/3 | 2.42 / 1.40 |
| 050 . VAR | 6 | var. | 180 | 350 | 230/50/1 | 2.36 ** |

HTC type 076 (enclosed design, IP-55)

| | | | | | | | |
|-----------|-----|------|-----|------|----------------------|-----------|-----|
| 076 . 930 | 6 | 930 | 750 | 1170 | 230/400/50/3 | 5.0 / 2.9 | |
| 076 . 690 | 8 | 690 | 370 | 560 | 230/400/50/3 | 2.6 / 1.5 | |
| 076 . 325 | 16 | 325 | 120 | 290 | 230/400/50/3 | 2.0 / 1.2 | |
| 076 . 425 | YI | 6 | 935 | 750 | 1420 | 400/50/3 | 3.1 |
| | YII | 12 | 425 | 150 | 300 | 400/50/3 | 1.1 |
| 076 . 930 | M | 6 | 930 | 750 | 1170 | 230/50/1 | 8.0 |
| 076 . VAR | 6 | var. | 750 | 1000 | 230/50/1 | 8.4 ** | |
| 076 . 840 | 8 | 840 | 660 | 770 | 230-254/400-440/60/3 | 4.8 / 2.8 | |

HTC type 090 (enclosed design, IP-54)

| | | | | | | |
|-----------|---|---|-----|------|----------|------|
| 090 . 850 | Δ | - | 850 | 3300 | 400/50/3 | 6.93 |
| | Y | - | 610 | 1900 | 400/50/3 | 3.85 |
| 090 . 680 | Δ | - | 680 | 1750 | 400/50/3 | 3.96 |
| | Y | - | 520 | 1200 | 400/50/3 | 2.53 |
| 090 . 860 | Δ | - | 830 | 1600 | 400/50/3 | 3.85 |
| | Y | - | 610 | 910 | 400/50/3 | 1.98 |

HTC type 091 (enclosed design, IP-54)

| | | | | | | |
|-----------|---|---|-----|------|----------|------|
| 091 . 850 | Δ | - | 850 | 3300 | 400/50/3 | 6.93 |
| | Y | - | 610 | 1900 | 400/50/3 | 3.85 |
| 091 . 680 | Δ | - | 680 | 1750 | 400/50/3 | 3.96 |
| | Y | - | 520 | 1200 | 400/50/3 | 2.53 |
| 091 . 860 | Δ | - | 830 | 1600 | 400/50/3 | 3.85 |
| | Y | - | 610 | 910 | 400/50/3 | 1.98 |

HTC type 100 (enclosed design, IP-54)

| | | | | | | |
|-----------|---|---|-----|------|----------|------|
| 100 . 670 | Δ | - | 650 | 2200 | 400/50/3 | 4.6 |
| | Y | - | 460 | 1350 | 400/50/3 | 3.0 |
| 100 . 420 | Δ | - | 420 | 860 | 400/50/3 | 2.2 |
| | Y | - | 310 | 500 | 400/50/3 | 1.07 |
| 100 . 380 | Δ | - | 380 | 670 | 400/50/3 | 1.54 |
| | Y | - | 250 | 330 | 400/50/3 | 0.74 |

* The settings can be applied to a minimum ambient temperature of -10 °C

** Value at highest speed.

Note : Actual fan speed may differ from the values as indicated on the motor name plate.



HELPMAN

Helpman BV
Postbus 44
9700 AA Groningen
Tel. 050-5217555
Fax 050-5264878
E-mail info@helpman.com
Internet www.helpman.com