# Horta

**Radial** Fans

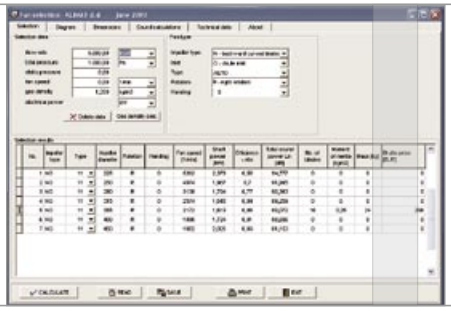
## Advantages

Hidria radial fans are distinguished for high efficiencies, light weight, high quality materials and long service life. All the fan types conform to the DIN 24166 standard (accuracy classes 2 and 3) and are designed with all components standardised. They are measured on a measurement train conforming to the ASHRAE 51-75 and the AMCA 210-74 standards. Their design allows in-service replacement of components such as rotors. Considering the long service life, all the vital components and assemblies are designed for easy replacement to ensure high performances and efficiencies over the entire unit service life.

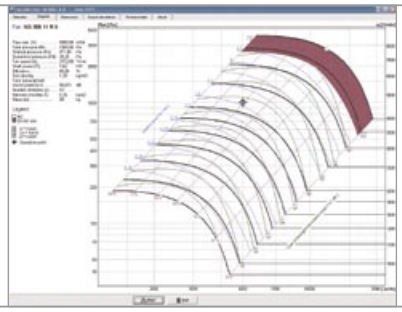
## Fan selection program

- Allows selection of any fan configuration
- Selects the optimal fan size
- Displays the fan characteristic with the selected duty point
- Displays the fan drawing with all the required dimensions
- Calculates all the required parameters

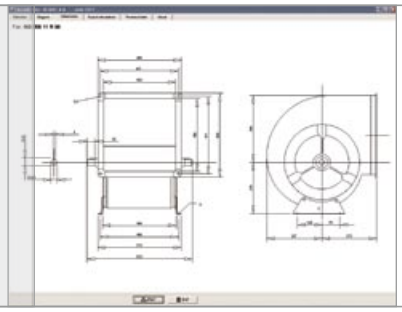
Fan calculation

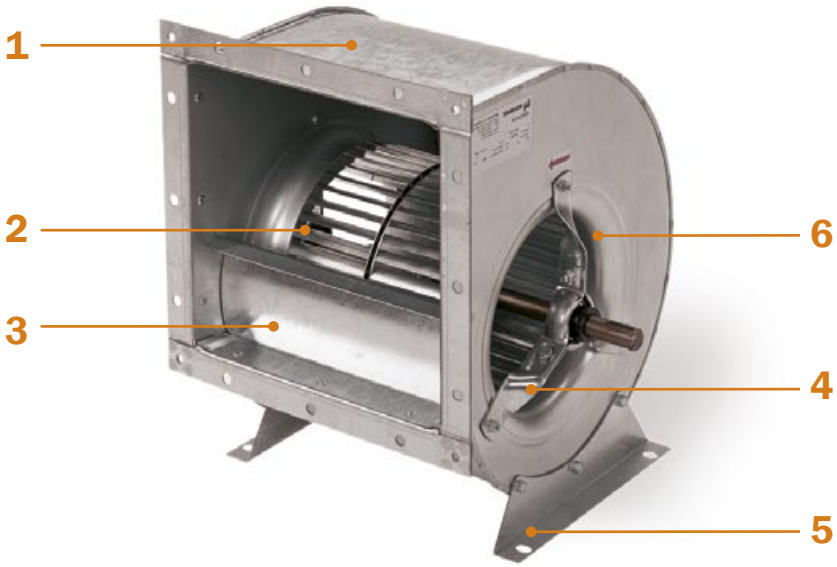


Characteristic-duty point determination



Fan drawing






## Application

Radial fans are applied in ventilation and airconditioning engineering. They are installed in airconditioning units, or applied as standalone elements, built into different distribution ducts to maintain the required or specified flow rate. Their operational temperature range is –30 °C to 80 °C.

**1.** Fan housing

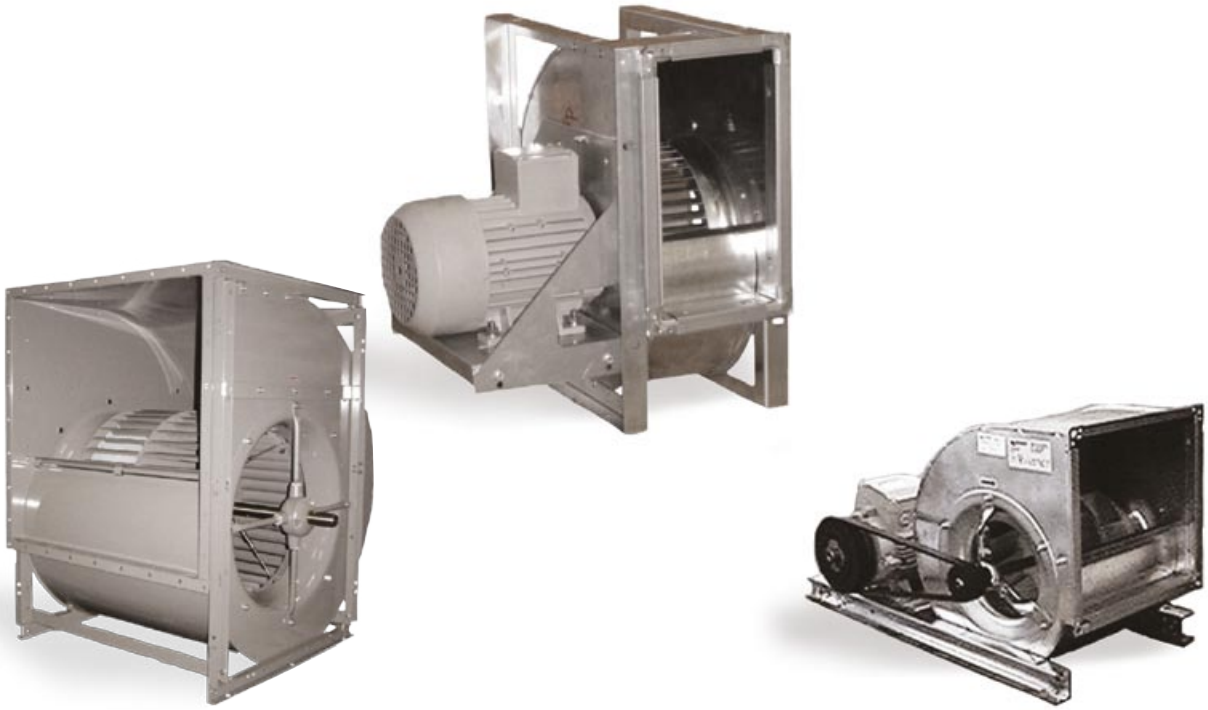
**2.** Impeller with shaft

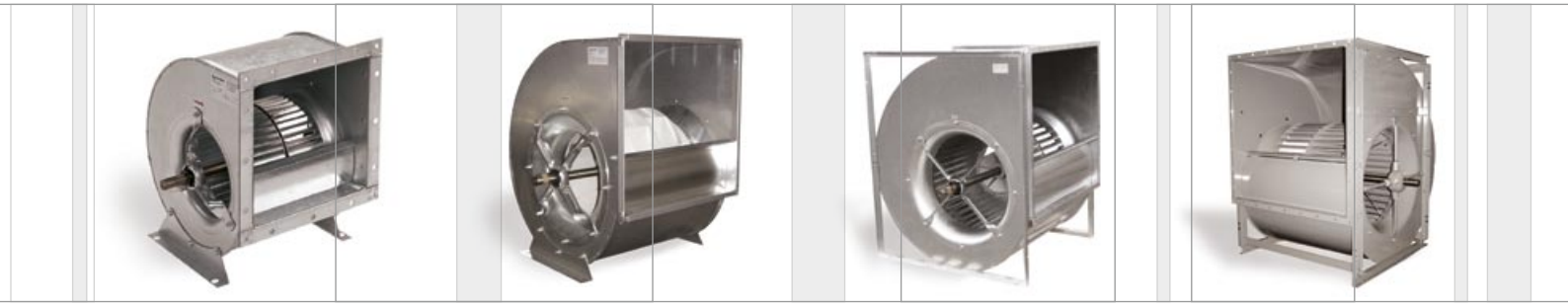
**3.** Cut off

**4.** Bearing supporting arms

**5.** Legs

**6.** Inlet cone





## Main Design Variants of Fans

Radial fans with double-side intake, with forward curved blades, with support legs and lightweight bearings.

**Characteristics:**
BO 11 160 –: 710
Q= 500-40000 $m^3/h$
$\Delta pt_{max}$= 2000 Pa
$Pw_{max}$= 13,5 kW

Radial fans with double-side intake, with backward curved blades, with support legs and lightweight bearings.

**Characteristics:**
NO 11 200 –: 710
Q= 700-40000 $m^3/h$
$\Delta pt_{max}$= 2800 Pa
$Pw_{max}$= 11 kW

Radial fans with double-side intake, with forward curved blades, with support side frame 22 and lightweight bearings.

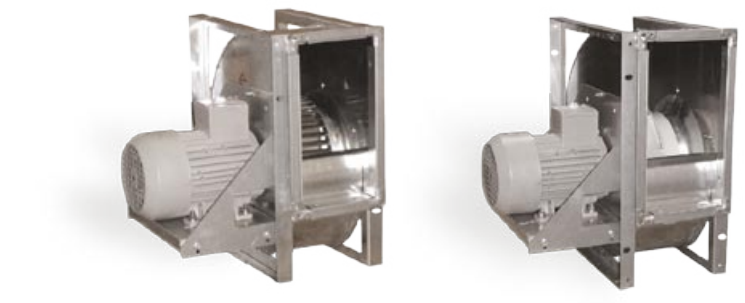
**Characteristics:**
BO 22 160 –: 710
Q= 500-40000 $m^3/h$
$\Delta pt_{max}$= 2000 Pa
$Pw_{max}$= 13,5 kW

NO 22 200 –: 710
Q= 700-40000 $m^3/h$
$\Delta pt_{max}$= 2800 Pa
$Pw_{max}$= 11 kW

Radial fans with double-side intake, with forward curved blades, heavy duty side frame T and heavy duty bearings.

**Characteristics:**
BO T 400 –: 1000
Q= 5000-80000 $m^3/h$
$\Delta pt_{max}$= 1700 Pa
$Pw_{max}$= 47 kW

NO T 400 –: 710
Q=7000-70000 $m^3/h$
$\Delta pt_{max}$= 3200 Pa
$Pw_{max}$= 45 kW



Radial fans with single-side intake, with forward and backward curved blades, with direct drive.

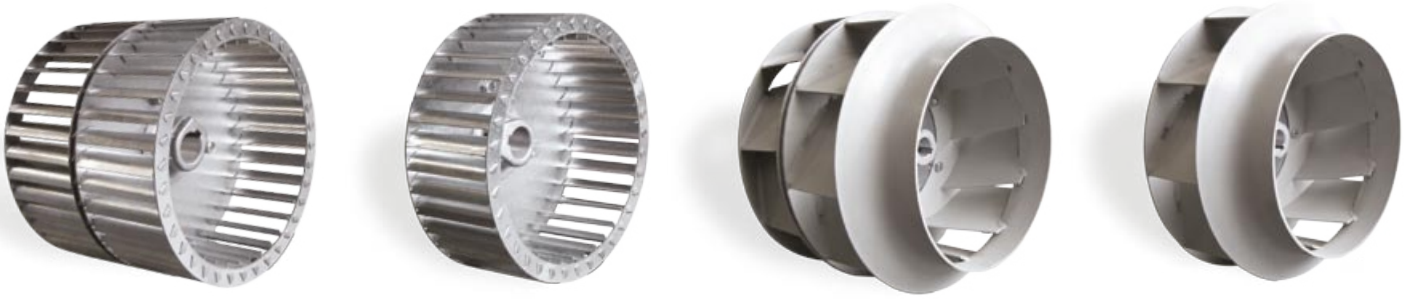
## Impellers

Fan impellers are dynamically balanced in two planes, including shafts and half a key in each shaft end groove. The allowable impeller and shaft assembly balancing tolerance conforms to ISO 1940.

Impellers with forward curved blades are made of high grade galvanised steel sheet. They are distinguished for high flow coefficient, low revs, low noise and low weight.

Impellers with backward curved blades are made of deep drawn pickled steel sheet and then epoxy coated for protection.

A special impeller design ensures high efficiency, broad efficiency curve and favourable power characteristic curve. They are suitable for accommodating higher pressure differences.

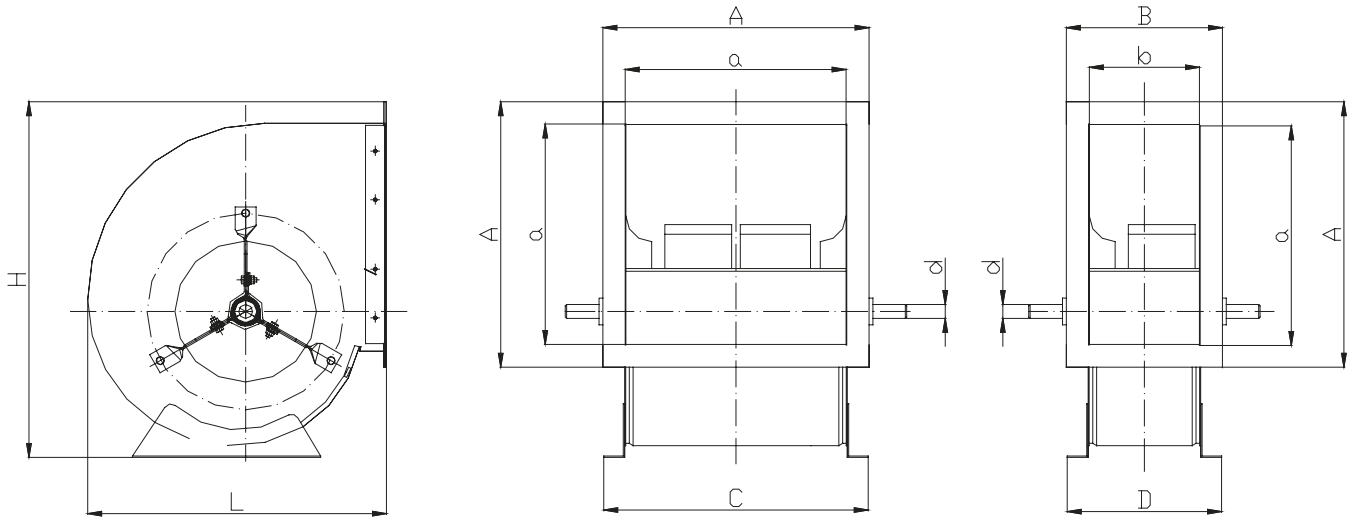


The fans are manufactured in conformance with ISO 9001:2000, ensuring the level of quality of development, design, production and sale.

## Ecavent

Radial fans with single-side intake, with forward curved blades, with external impeller and asynchronous or electronically commuted motor, and double-side intake fans with external impeller and electronically commuted motor.

**Characteristics:**
$Q_{max}$ = 20000 $m^3/h$
$\Delta pt_{max}$ = 2000 Pa
$Pw_{max}$ = 5.5 kW
BE 160 –: 1000 (direct drive)
NE 200 –: 710 (direct drive)
BEZ, NEZ, BOZ, NOZ 160 –: 400 (ECAVENT)
BEK, BEK EC 160 –: 400




| Size | | | | | | | | | Fan type | BE 11,12 NE 11,12 | BO 11,12 NO 11,12 | BO T NO T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | H | L | a | b | | $\phi_{h6}$ | $\phi_{h6}$ | $\phi_{h6}$ |
| 160 | 240 | 140 | 256 | 145 | 339 | 285 | 199 | 99 | | 20 | 20 | - |
| 180 | 265 | 155 | 282 | 156 | 372 | 317 | 224 | 112 | | 20 | 20 | - |
| 200 | 290 | 167 | 307 | 170 | 405 | 345 | 249 | 124 | | 20 | 20 | - |
| 225 | 320 | 182 | 345 | 205 | 458 | 392 | 279 | 139 | | 20 | 20 | - |
| 250 | 355 | 200 | 380 | 224 | 501 | 429 | 314 | 156 | | 20 | 20 | - |
| 280 | 395 | 222 | 419 | 244 | 560 | 476 | 354 | 176 | | 25 | 25 | - |
| 315 | 440 | 242 | 465 | 265 | 616 | 522 | 399 | 199 | | 25 | 25 | - |
| 355 | 490 | 267 | 515 | 290 | 686 | 593 | 449 | 224 | | 30 | 30 | - |
| 400 | 5440 | 312 | 596 | 335 | 767 | 663 | 499 | 249 | | 30 | 30 | 40 |
| 450 | 620 | 343 | 656 | 365 | 865 | 743 | 558 | 278 | | 35 | 35 | 40 |
| 500 | 690 | 377 | 726 | 401 | 955 | 816 | 628 | 314 | | 35 | 35 | 40 |
| 560 | 770 | 418 | 796 | 441 | 1071 | 913 | 708 | 354 | | 40 | 40 | 40 |
| 630 | 860 | 463 | 878 | 488 | 1197 | 1019 | 798 | 399 | | 40 | 40 | 40 |
| 710 | 960 | 510 | 987 | 537 | 1344 | 1147 | 898 | 449 | | - | 50 | 50 |
| 800 | 1060 | 560 | 1088 | 587 | 1490 | 1288 | 998 | 499 | | - | - | 50 |
| 900 | 1185 | 622 | 1213 | 647 | 1675 | 1447 | 1123 | 560 | | - | - | 60 |
| 1000 | 1310 | 690 | 1338 | 717 | 1831 | 1576 | 1248 | 628 | | - | - | 60 |

Hidria

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