

# **DLL for SELECTION of BELT DRIVEN FANS**

**For integration into OEM CAE/design programs  
running under 32 bit PC operating systems**

**DLL Version 2**

**(v. from 2.0.0, to 2.5.4)**

**Archive version 2.0**

**Extraction procedure**

**Instructions for extracting DLL and Archive files from  
a complete installation of the Ventil stand alone program**

**Rev. 2**

## 1. SCOPE

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This manual describes the procedure to extract the DLL file, the configuration file and the archive files required to operate the Nicotra DLL for belt driven fan selection, as described in the relevant USER MANUAL.

Operation of the DLL functions is described in the USER MANUAL (file Manual\_DLL200\_Rxx.doc).

Detailed function interface specifications and some exempla of functions integration are given in the INTERFACE SPECIFICATIONS (file Interface code\_DLL200R3.doc).

## 2. DISTRIBUTION MEDIUM

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Five different DLL files of the revised "version 2" family are distributed with different channels.

- A Nicotra.dll file, version 2.0.0, was distributed with the Ventil Upgrade package from version 2.5 to 2.6. This file ((633 KB, 27-07-01) is a stand-alone dll compatible with most Win32 operating systems (Win'98, WinNT, Win2000, WinME) but *not* with Windows 95.
  - A different Nicotra.dll file, version 2.1.0 (237 KB, 26-10-01) is the same code, recompiled with different settings, to achieve compatibility also with Windows 95. Although smaller, this DLL file requires three additional dlls to be located with it (alternatively they can be located in the \Windows\Sistem32 directory); they are: Dformd.dll (418 KB, 17-11-98), Dforrt.dll (411 KB, 17-11-98) and Msvcrt.dll (261 KB, 01-03-99). This is the standard DLL included in the updated Ventil v. 2.0.0 distribution CD-Rom.
  - Version 2.1.1 (237 KB, 27-11-01) is similar to version 2.1.0, but was recompiled with a character string length, of the "List" variable used by GET\_PRODUCTS, reduced again to 20000 characters, as used by the DLL ver. 1.0.0, to achieve compatibility with existing main programs. This string was extended, in the former two versions, to 30000 characters to compensate for the increased number of fans dealt with by Ventil.
  - Version 2.2.0 (237 KB, 28-01-02) is the same code as version 2.1.0, apart from the correction of a bug which produced a slight overestimate (of roughly 1 dB) of the sound power levels of twin fans only, when calculated according to the BS 848 Part 2, appendix G mathematical model. It has been distributed as part of the ADH CP 2.0 upgrade package.
  - Version 2.2.1 (237 KB, 28-01-02) is the same code as version 2.2.0, with the length of the variable List in GET\_PRODUCTS reduced again to 20000 characters, to achieve compatibility with code written for the older dll ver. 1.0.0. This special version is available from Nicotra to assist software developers who wish to keep existing software while updating to the revised and extended mathematical models employed by the new dll ver. 2. See also chapter 4.2. Users who need this special version of the dll file should contact Nicotra directly (r&d@nicotra.it) to receive it.
  - Version 2.3.0 (245 KB, 19-06-02) is an improved variant of version 2.2.0, with corrections of a couple of bugs which prevented proper calls to the two graphical routines GET\_WMF and GET\_WMF\_DIM\_LIST, and the addition of the SETDLLPATH routine, with slight changes to
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the archive search procedures. This version is distributed together with the DLL technical documentation for SW developers, and may be included in future releases of Ventil.

- Version 2.3.1 (245 KB, 09-10-02) is identical to version 2.2.0, apart from a correction to a mistyped value for a motor shaft diameter. This version is distributed together with the DLL technical documentation for SW developers, as part of the ADH Upgrade package 2.3b and as integral part of Ventil 2.0.2.
- Version 2.3.2 (245 KB, 28-01-03) is identical to version 2.3.1, apart from correction of a bug which sometimes prevented a successful call to the function GET\_PICTURE\_NAME. This version is distributed together with the DLL technical documentation for SW developers, and as part of the redistributable archive package for ADH and RDH fans.
- Version 2.3.3 was just a development version, not distributed.
- Version 2.4.0 (268 KB, 01-07-04) was modified to introduce support for AMCA 301 noise calculation model. This version is distributed together with the DLL technical documentation for SW developers, and as part of the redistributable archive package for ADH, RDH and AT fans.
- Version 2.5.0 and 2.5.1 were just development versions, not distributed.
- Version 2.5.2 (292 KB, 20-06-05) was modified to improve support for AMCA 301 noise calculation model, including handling outlet-side licensed data. Functions to provide extended noise information (GET\_NOISE\_DATA), to provide the constants for parabolic margins delimiting the useful operation range (GET\_GRAPH\_K) and to provide flags stating the type of third-party performance certification of the of a specified fan (GET\_CERT\_DATA) have been included. This version is distributed together with Ventil Version 3.1.2, with the DLL technical documentation for SW developers, and as part of the redistributable archive packages for DWDI (double-inlet) fans.
- Version 2.5.3 was a purely developmental version, not distributed.
- Version 2.5.4 (292 KB, 20-06-05) was modified to improve the smoothness of the constant power level curves, and to correct a bug which had de-activated the control on the minimum number of parallel belts to use when selecting belt drives with the functions GET\_CALCULATION\_BELT and GET\_CALCULATION\_MULTIBELT.

Archive files can be taken from an installation of Ventil 3.1.2 or later from CD Rom, or from a compressed installation package, downloadable from the Nicotra Internet website.

Two alternative, special, compressed packages are available to SW developers, to simplify the integration task. The first includes just the four dll files and the archives for ADH-RDH-RDA-AT double inlet fan ranges with metric sizes and components. A second package contains data for the similar ADHU-RDHU-RDAU-ATU double inlet fan ranges with inch-based sizes and inch-sized components, for the US market.

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### 3. DECOMPRESSING FILES

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The required files are stored, on the CD-ROM distribution disk, inside a compressed “cab” format, as a Self-extracting package “NicBDF\_Package.exe”. This package contains data for all the fan ranges covered by Ventil, plus other auxiliary files required by Ventil and material for an HTML presentation of the Nicotra group and of its products. Nicotra does not recommend the re-distribution of the archives under this form, at least because the size of the archive package is largely increased by unnecessary material.

The easier approach to access the files required for re-distribution is to install, as a first step, the complete Ventil Stand-alone program, according to the CD-ROM instructions.

This procedure will copy and decompress all the files from the CD-ROM.

The availability of the Ventil program will give also the added bonus of a separate tool to interrogate the Nicotra proprietary archives and check the results of the integration of the DLL with the customer’s SW.

If the stand-alone program is not needed, as only the DLL operation is required, Ventil can be uninstalled later on, after the files for DLL use have been selected and copied elsewhere.

### 4. WHERE TO LOOK FOR THE DLL FILES IN A VENTIL INSTALLATION

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If the Ventil program was installed in its default directory, “**C:\Program files\Ventil**”, then the main DLL file “**NICOTRA.DLL**” is contained in this directory, together with the “Ventil.exe” main program. The three auxiliary dll files, Dformd.dll, Dforrt.dll and Msvcrt.dll, installed by Ventil ver 3.1.2, are also located here.

All the other files required to operate the DLL package are contained in the sub-directory called “**C:\Program files\Ventil\Nicotra\_it**”.

### 5. DLL FILES LIST

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The files required are:

Inside **C:\Programs\Ventil**:

the DLL file “**NICOTRA.DLL**”, 299 062 Bytes, ver 2.5.2, 20-06-05, or ver. 2.5.4, 07-03-06,  
and also

the DLL files           “**Dformd.dll**”, 427520 Bytes, 17-11-98  
                              “**Dforrt.dll**”, 420864 Bytes, 17-11-98 and  
                              “**Msvcrt.dll**”, 266293 Bytes, 01-03-99,

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for users starting from Ventil 3.1.2.

The Nicotra.dll file, version 2.5.2 can be substituted with more recent updates, as available.

Inside **C:\Programs\Ventil\Nicotra\_it**:

- All the “**\*.ACS**” files (may be reduced to the required languages only),
- All the “**\*.DAT**” files,
- All the “**\*.NSE**” files,
- All the “**\*.NSA**” files,
- All the “**\*.BMP**” files, with the exception of “Logo.BMP”,
- All the “**\*.EMF**” files,
- All the “**\*.PRD**” files,
- The single “**CINGHIE.ARC**” file,
- The single “**NIC\_INI.INI**” file.

All the above files, excluding the .dll files, shall be copied in a subdirectory of the customer's main program directory, and this subdirectory shall be called “Nicotra\_it”.

The .dll files shall be placed inside the main program directory.

Access to the DLL functions will be in accordance to what described in the user manual and in the Interface specifications.

The \*.TXT files, which can be found either in the Nicotra\_it directory, or in the reduced, re-distributable packages, contain useful descriptions of the product ranges and versions, but are not directly accessed by the DLL, so can be discarded, if not used, further reducing the size of the re-distributed packages.

## 6. UPDATE HISTORY

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**Rev. 0: 28/11/2001**

First release.

**Rev. 1: 21/06/2002**

Updated the list of the versions of Nicotra.dll.

**Rev. 2: 20/03/2006**

Updated the list of the versions of Nicotra.dll. Updated references to product range, Ventil versions and reduced-scope packages for SW developers.

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