



IMSDesign Quick Start Guide



Hydranautics – A Nitto Group Company

This document describes the step-by-step instructions to install, and get started with IMSDesign.

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~ Notes ~

Preface

The *IMSDesign Quick Start Guide* contains information about how you can install the Integrated Membrane System Design (IMSDesign) application. Additionally, this guide contains detailed information about setting the options related to different modules of the application.

Note: This guide does not cover service and repair procedures.

Typographic Conventions

This table lists the conventions used in this document.

Convention	Used for...
Bold	Names of document titles, UI element labels, and icon names
<i>Italics</i>	Names of windows, dialog boxes, or pop-ups
Courier new font	Commands, URLs, parameters, and field values
Blue underlined text	A hyperlink you can click to go to a related section in this document or to a URL in your Web browser.
Tip	Supplementary information
Note	Important information that you must know
Figure title	Image titles and diagram names

Who should read this?

The *IMSDesign Quick Start Guide* is intended for the training requirements of internal employees, vendors, and customers. This guide is also useful if you want to know how to get started with the application.

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~ **Notes** ~

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About IMSDesign

Integrated Membrane System Design (IMSDesign) is a software that calculates the throughput of a reverse osmosis (RO) plant. You can use IMSDesign to create a design for a water treatment plant that uses the reverse osmosis process. Using IMSDesign, you can create designs that can be implemented for plants that can be used for industries and cities.

This application is designed to calculate the throughput of an RO plant, and allows you to move water data through a series of stages. Each stage functions as an input for the next stage. Depending on the results on all the stages, IMSDesign creates an analysis and design that is most suitable for your RO plants.

To create the RO design, you must perform the following high-level steps:

1.1 Analysis and Analysis Save

This is the first stage where you compute how the raw water sample is treated. You can enter the water analysis report values and evaluate the analysis by using techniques such as water balancing, measure saturation levels, and pH equilibrium.

At the time of performing an analysis, you must enter values for the raw water report and analyze its ion combinations.

Additionally, IMSDesign enables you to specify the ion and chemical composition of Feed, Permeate and Reject water and save your analysis.

1.2 Design

This is the second stage in the IMSDesign RO design system. To perform this high-level step, you can specify parameters such as permeate flow, recovery, membrane type, and number of stages.

At the time of creating a design, you can specify the product flow and recovery, membrane type, age, and number of stages. You can also specify rates of flux decline, salt passage increase, sizing of a permeate desalting stage, addition of permeate back-pressure or an inter-stage booster, or recirculation of the concentrate stream.

1.3 Calculation

This is the third stage in the RO design process. During calculation, the application calculates and displays values for Power Requirement, Chemical Requirement, and Cost.

After you create the design, IMSDesign performs calculation. The application calculates the product quality and determines if design limits have been exceeded.

1.4 Post Treatment

This is the fourth stage in the RO design process. IMSDesign allows you to add the chemicals to the stream and treat permeate.

At the time of post treatment of your sample, you can define the permeate treatment options and the resulting changes in ionic concentrations and pH. You can also analyze calculations of cost and power requirements.

Install IMSDesign

This section contains information about how you can install IMSDesign. The IMSDesign application is standalone in nature, and does not require a persistent internet connection at the time of installation.

Note: To install IMSDesign, you must first obtain its installer, and it is available as a part of the sales package. Alternatively, you can download the installer from the Hydranautics downloads page (<http://www.membranes.com/IMSD/Download/>).

1.5 System requirements

The following list displays the prerequisites for installing IMSDesign.

Operating system requirements:

Windows XP SP3 / Windows 7 / Windows 8 / Windows 10

Other requirements:

1 GB RAM
300 MB disk space
Screen resolution: 1024 x 768 or 1152 x 864 or 1280 x 800 or 1600 x 900
Text size: 100 %
True color: 32 bit
Internet connection for Registration
Microsoft .Net framework 4.0 (the installer will install if not pre-installed).

1.5.1 Setup contents

The IMSDesignSetup.zip file contains the following files and folders:

- DotNetFX40
- ReportViewer
- WindowsInstaller3_1
- IMSDesign Setup

1.6 Installation Procedure

This topic contains instructions for installing IMSDesign on Windows 8, Windows 7, Windows Vista, and Windows XP.

Note: The IMSDesign application requires Microsoft Visual Basic Microsoft .NET Framework 4 (Microsoft .Net), and Microsoft Visual Studio Report Viewer 2010 (Report Viewer) on Windows 7, Windows Vista, and Windows XP computers. On Windows 8 computers, IMSDesign requires Report Viewer only. If you do not have these applications on your computer, the installer prompts you to install the missing applications before installing IMSDesign. If you already installed these applications, see [Install IMSDesign on Windows 8](#), [Install IMSDesign on Windows Vista and Windows 7](#) or [Install IMSDesign on Windows XP](#).

1.6.1 Wizard-driven installation of Microsoft .NET, and Report Viewer

To install the application:

1. Double-click the setup extractor file. The **IMSDesign Setup** wizard appears.

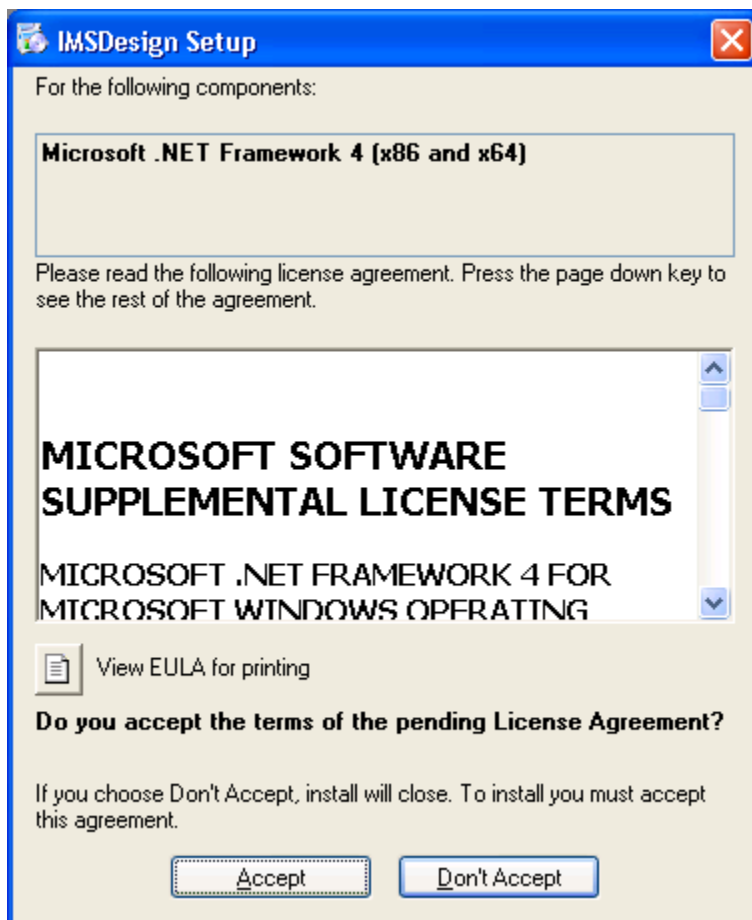


Figure 1 – IMSDesign Setup wizard

2. To accept the End User License Agreement (EULA), click **Accept**.

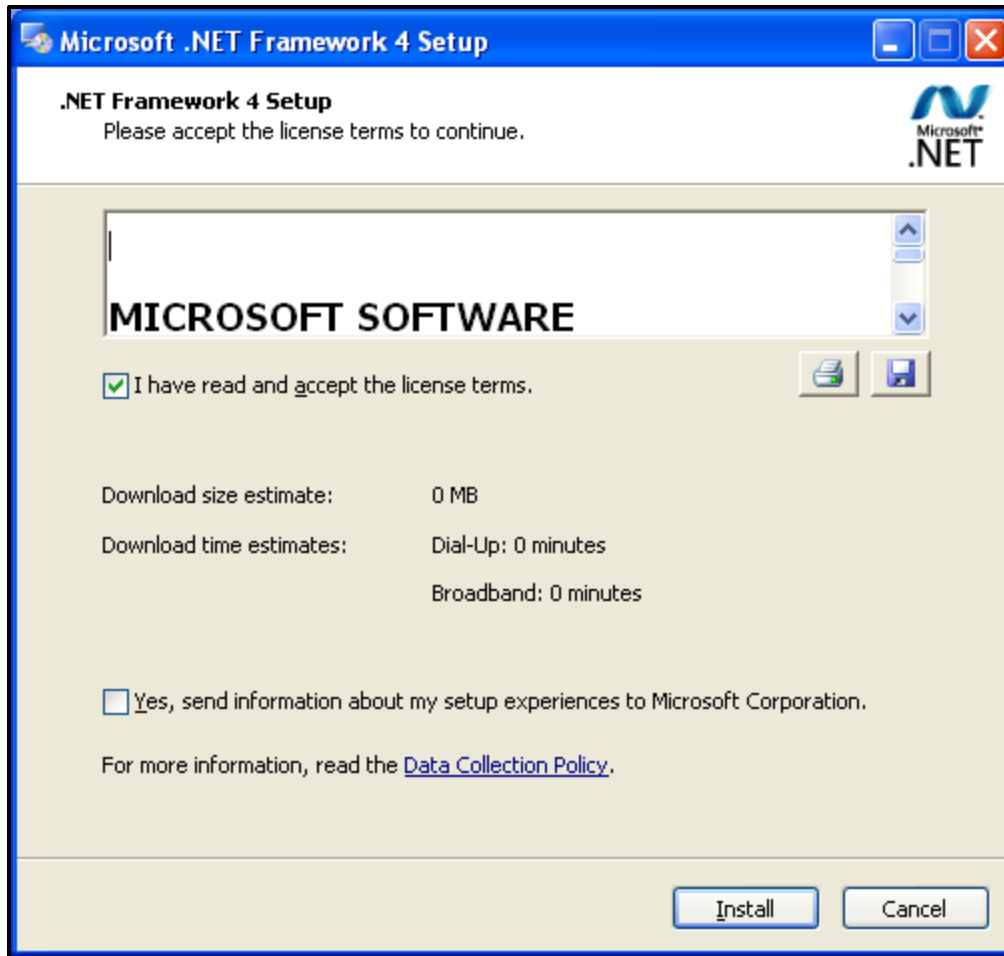


Figure 2 - Microsoft .NET Framework Setup wizard

3. To accept the license terms, select **I have read and accept the license terms** check box.
4. Click **Install**. The Microsoft .NET Framework installation starts.

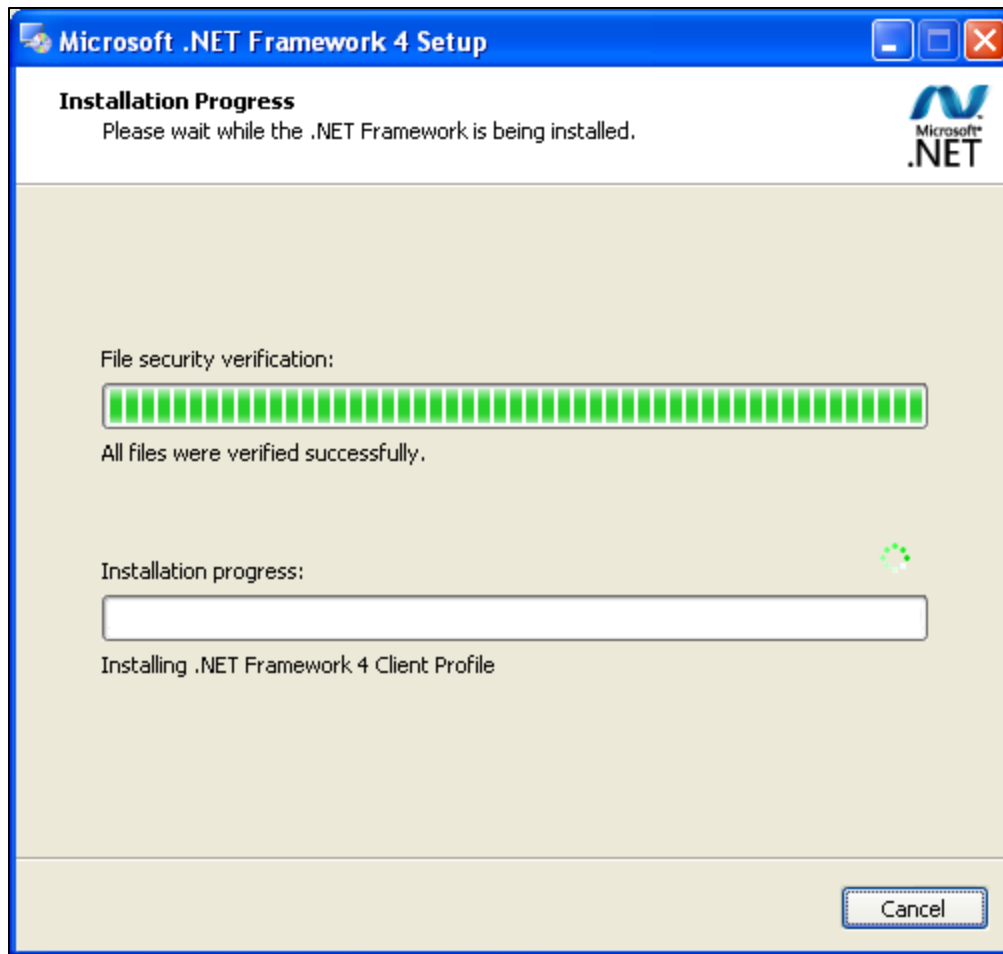


Figure 3 - Microsoft .NET Framework Setup progress window

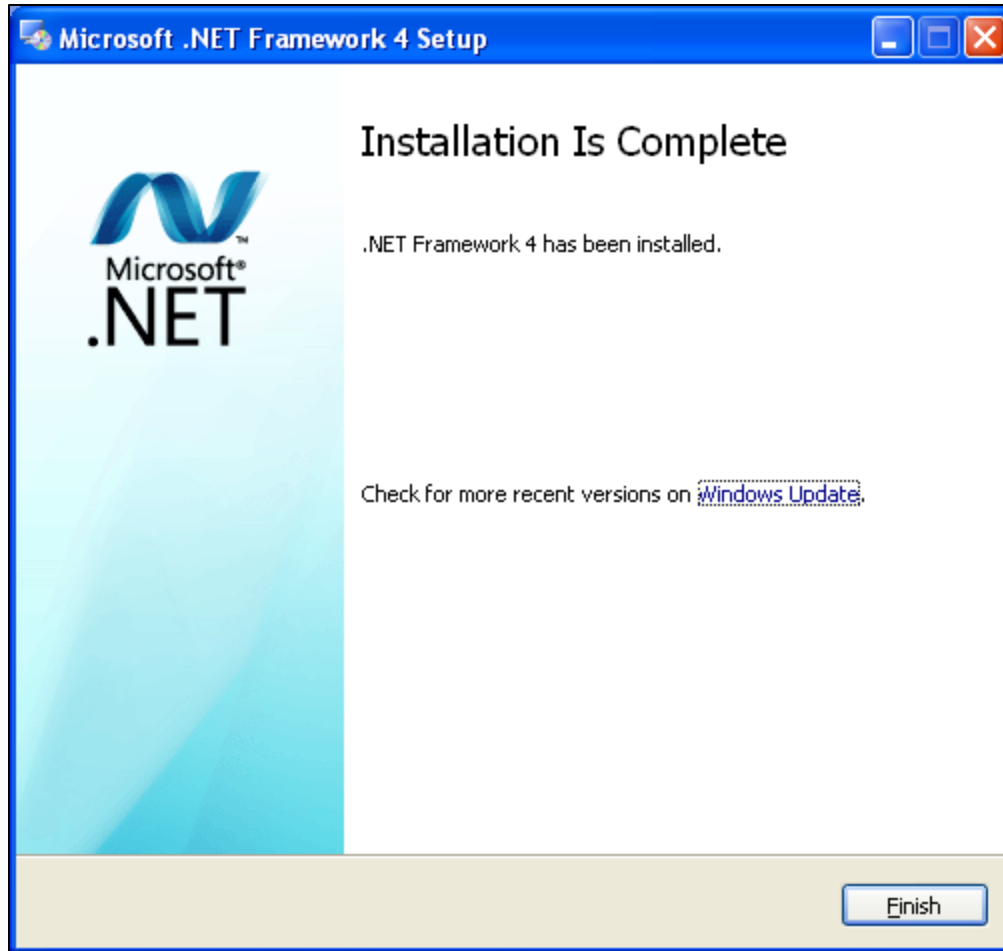


Figure 4 - Microsoft .NET Framework Setup wizard installation complete window

5. After the installation completes, click **Finish**.

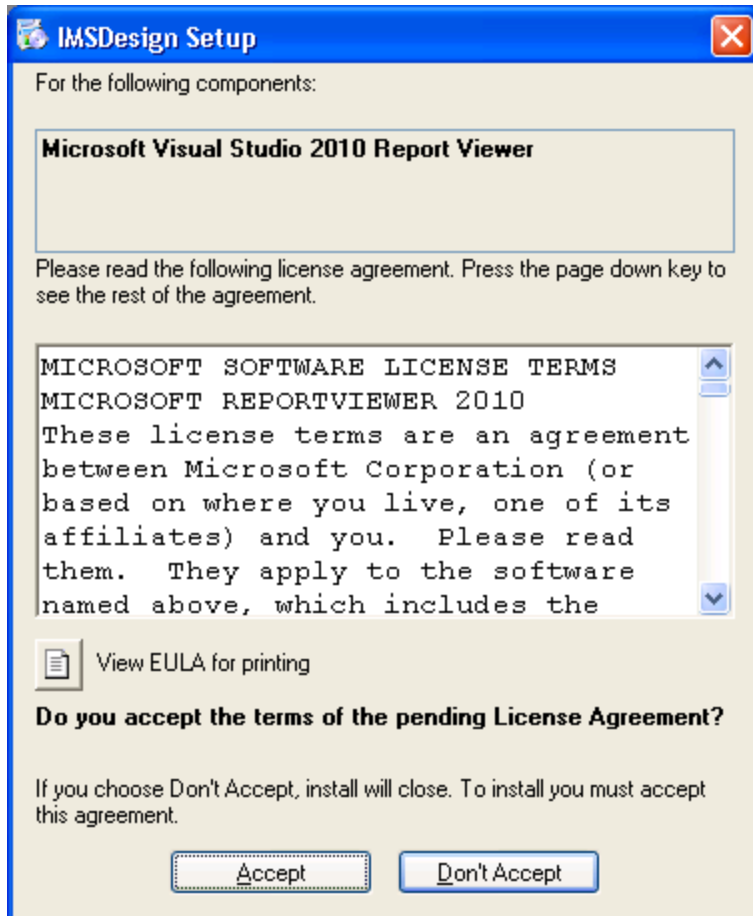


Figure 5 - Microsoft Report viewer 10.0 installation wizard

6. To start installation of Microsoft Visual Studio Report Viewer, accept the EULA by clicking **Accept**. The installation of Microsoft Visual Studio Report Viewer starts.
7. After the installation completes, the *IMSDesign installation* wizard appears.

1.7 Install IMSDesign on Windows 8

To install the IMSDesign application on Windows 8

1. Double-click the setup executable file. The *IMSDesign Setup* wizard appears.
2. (If you did not install Report Viewer) To proceed with the installation of Report Viewer, accept the EULA by clicking **Accept**.

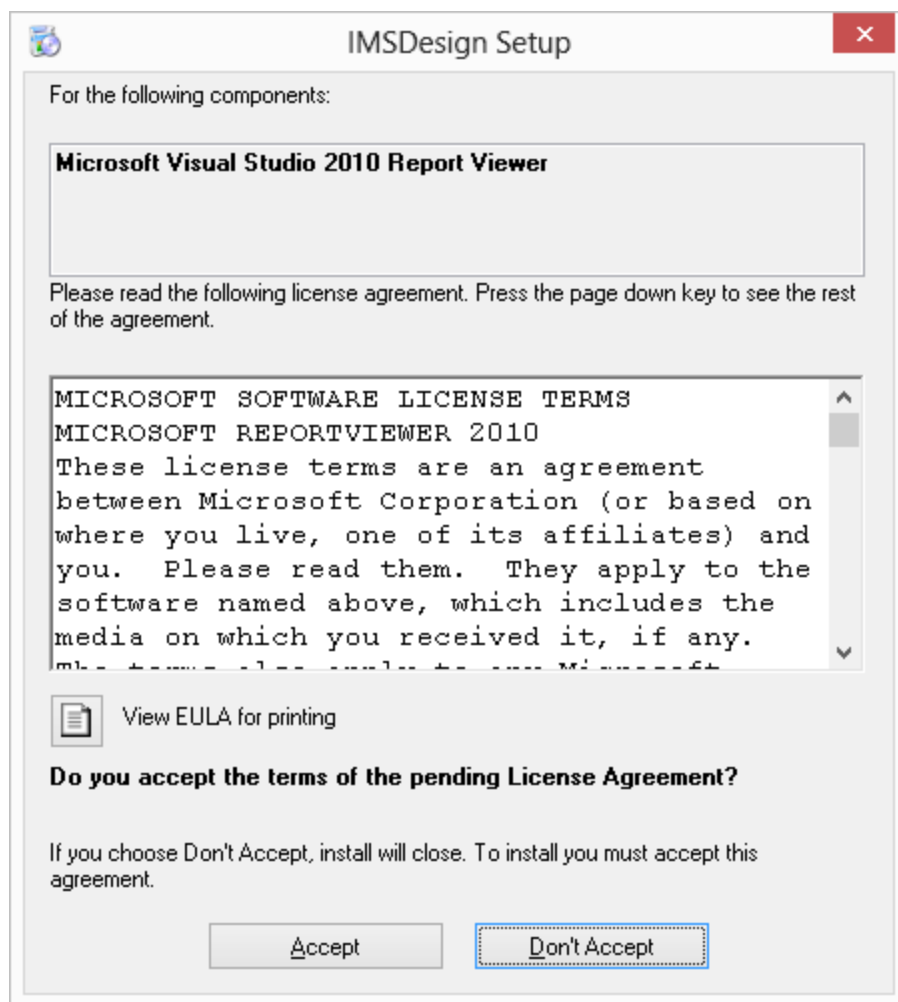


Figure 6 - Installing Microsoft Visual Studio 2010 Report Viewer window

3. Double-click the Setup extractor file. The *IMSDesign Setup Wizard* appears.

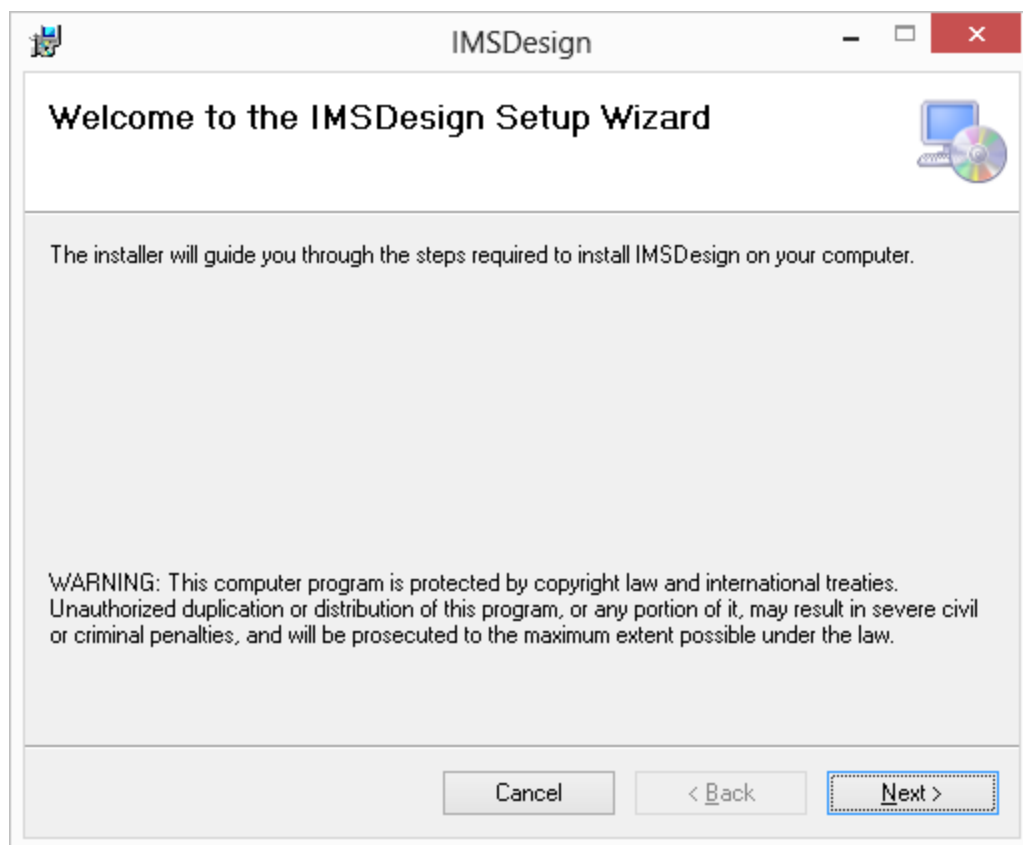


Figure 7 – IMSDesign Setup Wizard window

4. Click **Next**.
5. (Optional) To determine the available space on all drives, click **Disk Cost**.

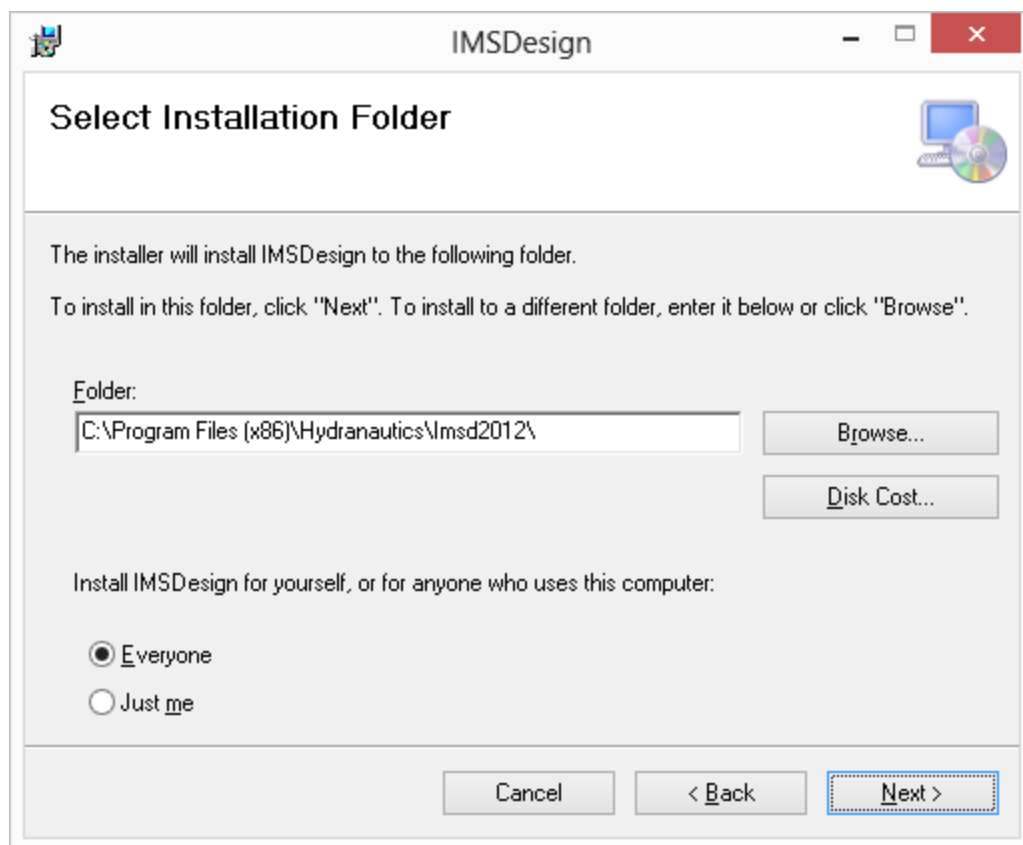


Figure 8 - Select Installation Folder window

6. The *IMSDesign Disk Space* dialog box containing information about free space on all drives appears.

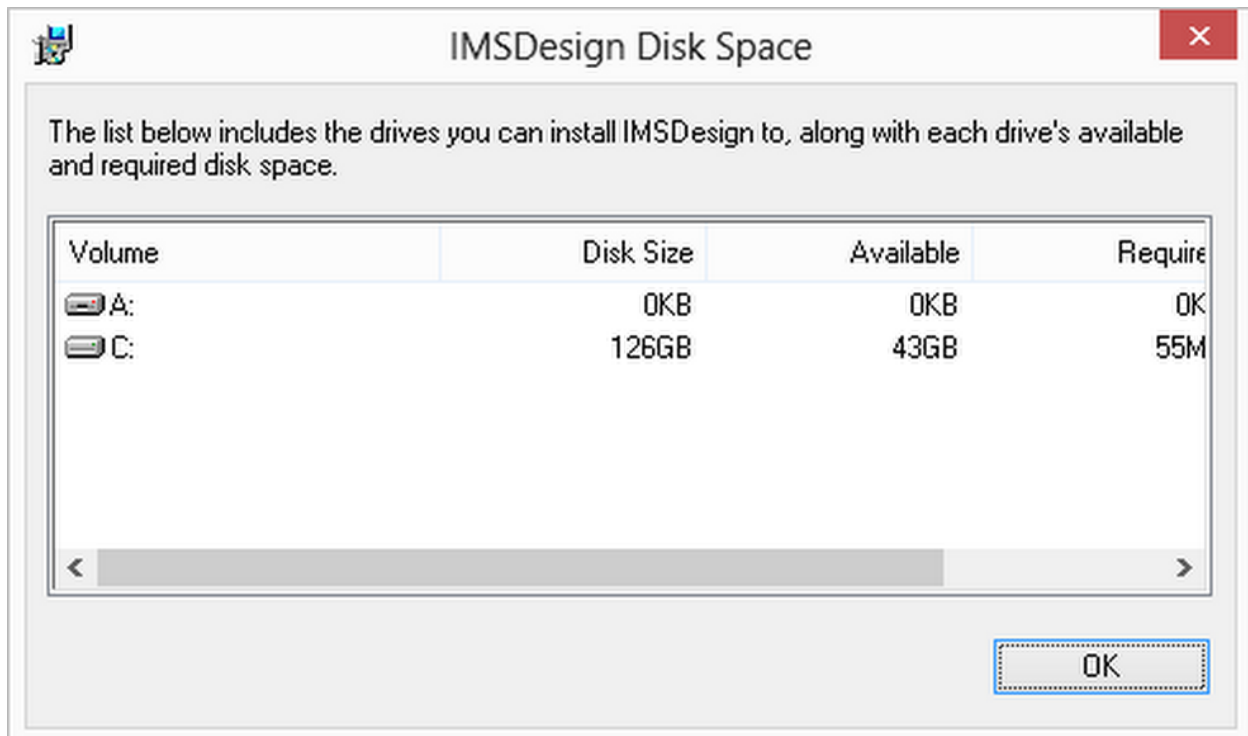


Figure 9 – IMSDesign Disk Space dialog box

Note: Use this information to determine the drive for the installation home directory.

7. Click **Browse** next to the **Folder** box to select the full path to the installation home directory.
8. To allow access to the IMSDesign application by all Windows profiles, click **Everyone**.
9. To allow access to the IMSDesign application by your profile only, click **Just me**.
10. Click **Next**.
11. To start the installation, click **Next**. The *Confirm Installation* window appears.

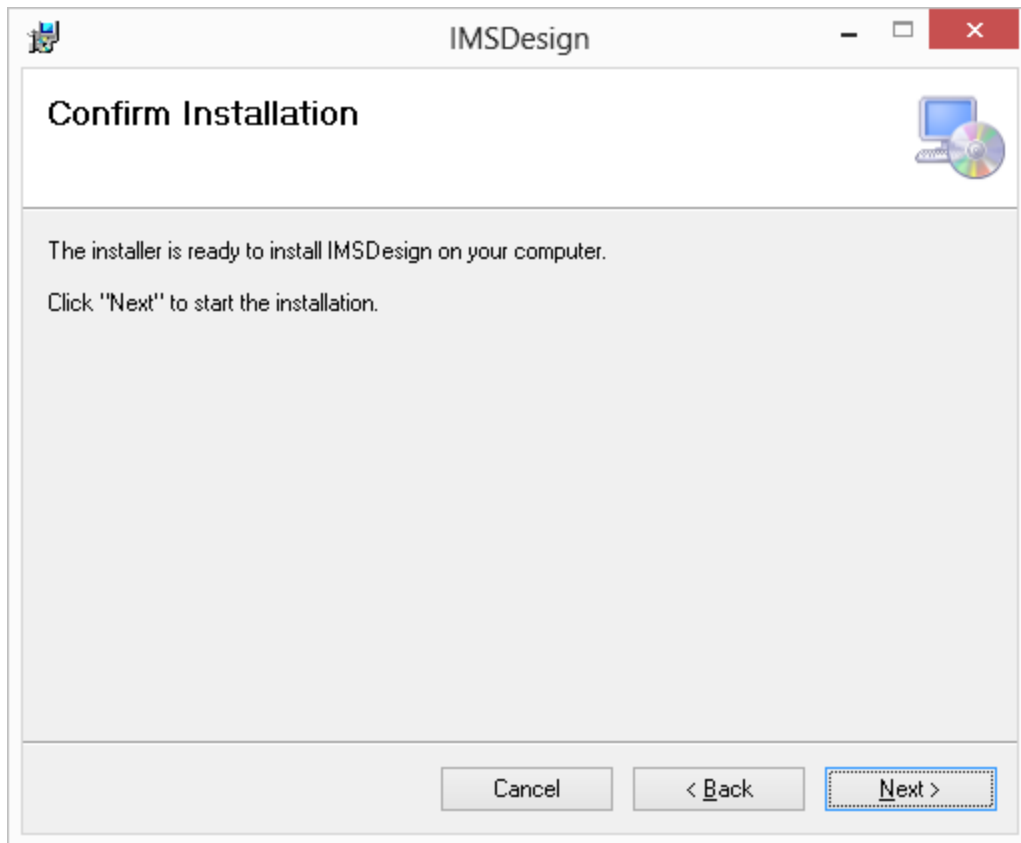


Figure 10 - Confirm Installation window

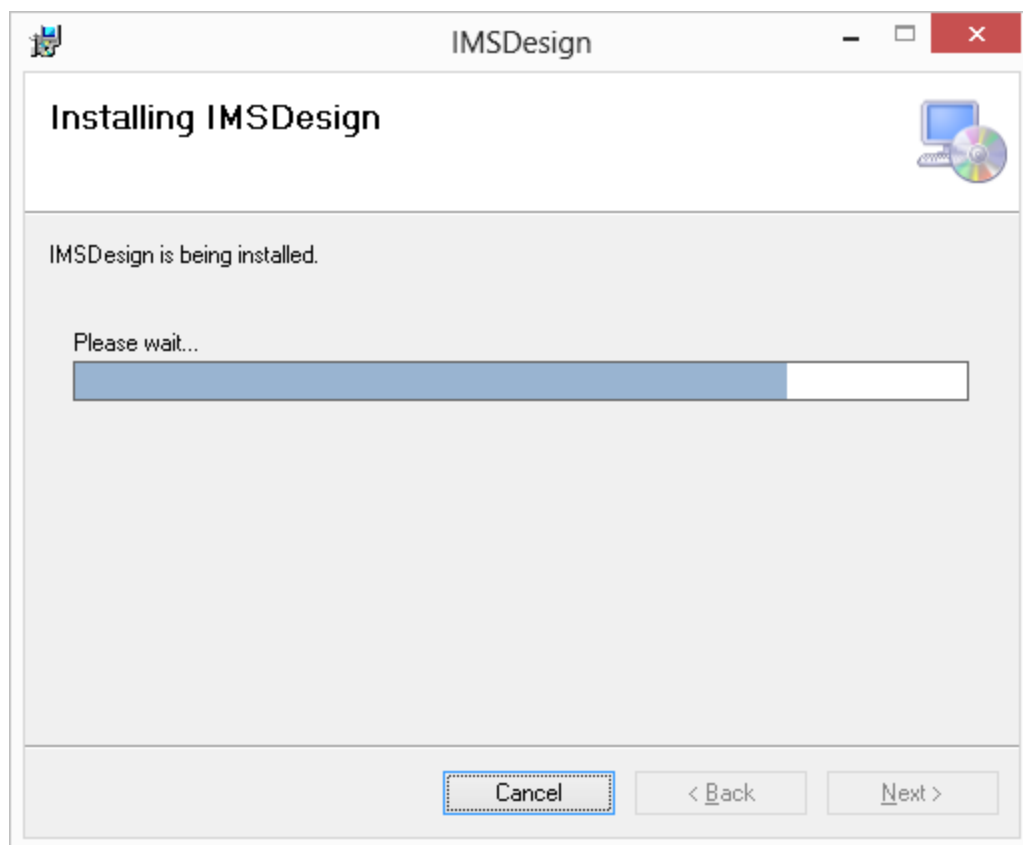


Figure 11 - Installing IMSDesign Progress bar

Note: The progress bar displays the progress of the installation.

12. Click **Next**.

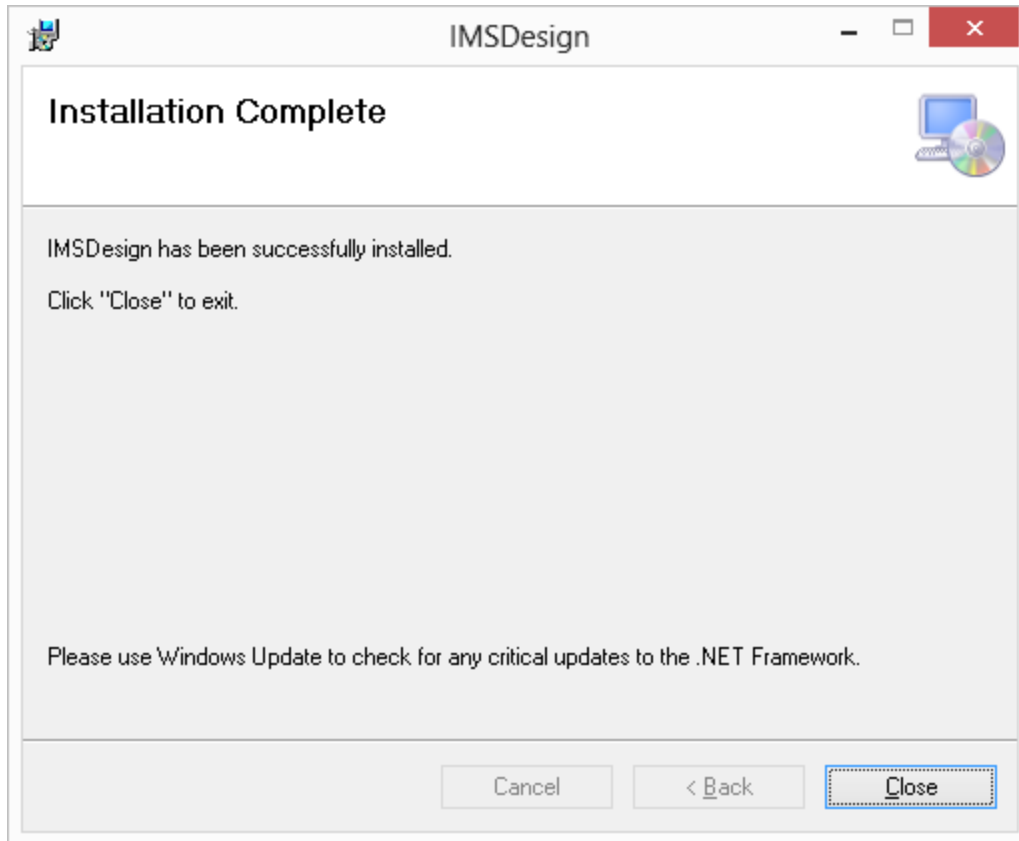


Figure 12 - Installation Complete message

13. After the installation completes, click **Close**.

1.8 Install IMSDesign on Windows 7 and Windows Vista

Note: If your computer does not have an installation of Microsoft .NET, and Report Viewer, make sure that you perform the steps described in [Wizard-driven installation of Microsoft .NET, and Report Viewer](#) before installing IMSDesign.

To install IMSDesign

1. On the *Welcome to the IMSDesign Setup Wizard* window, click **Next**.

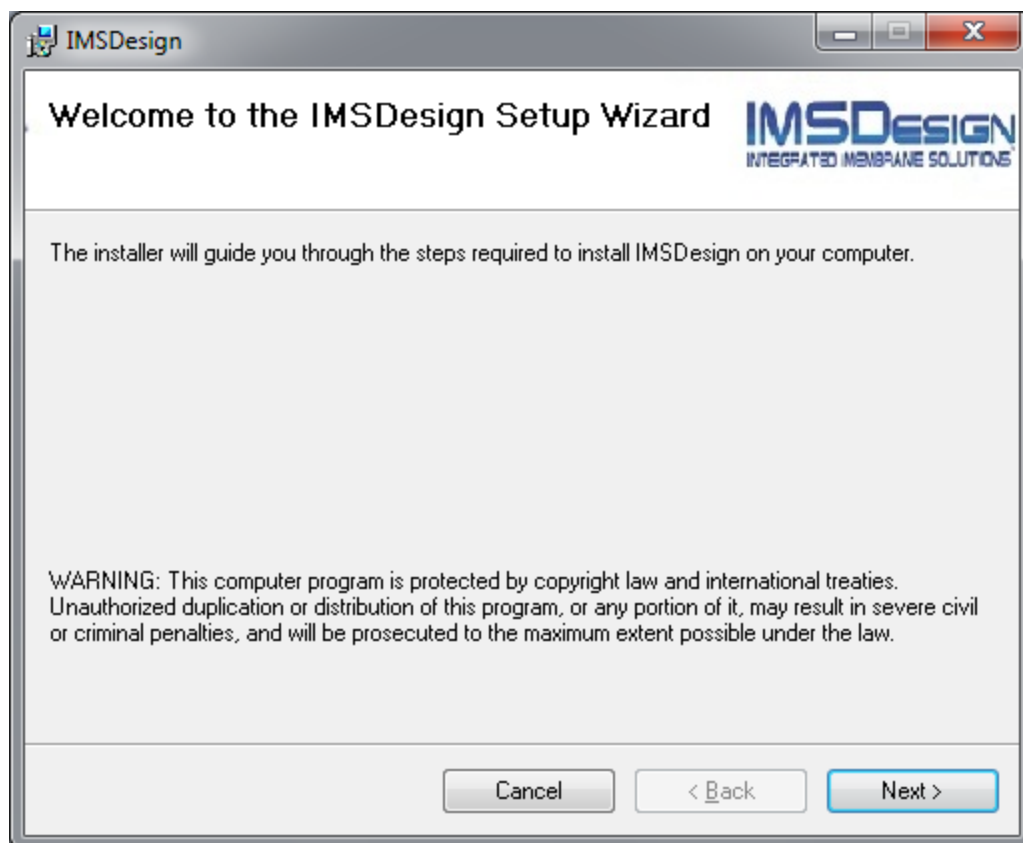


Figure 13 - Welcome to the IMSDesign Setup Wizard window

2. (Optional) To determine the available space on all drives, click **Disk Cost**.

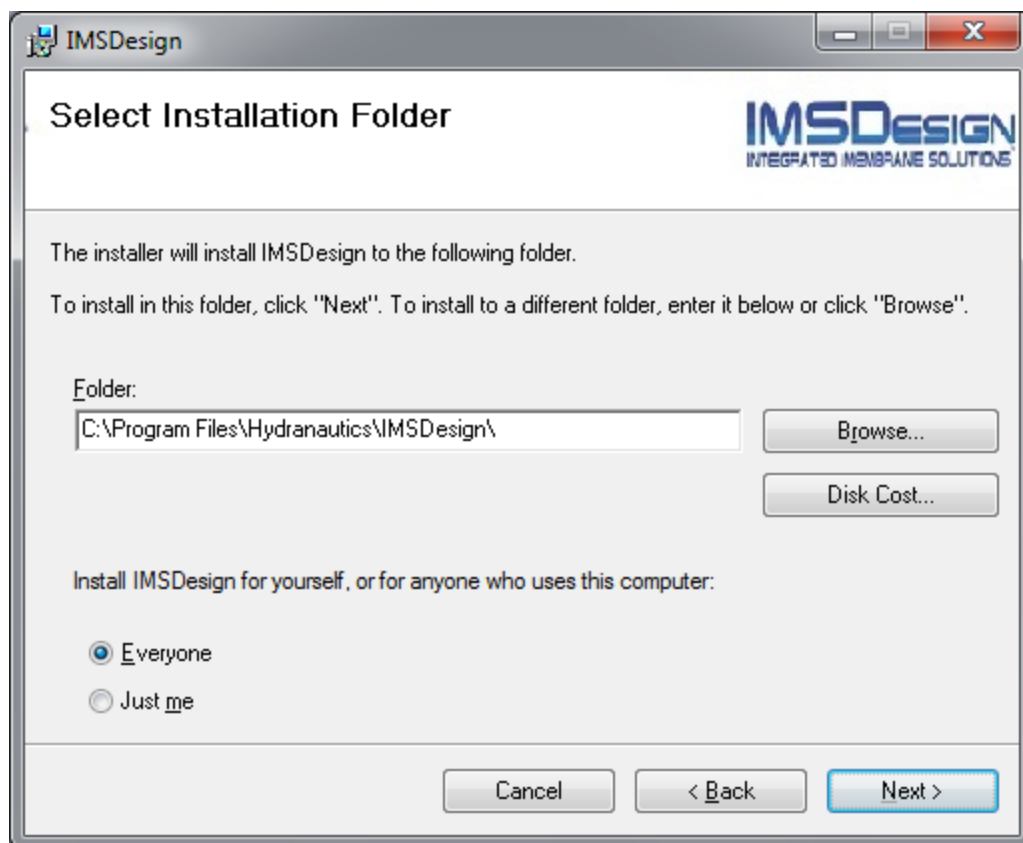


Figure 14 - Select Installation Folder window

3. The *IMSDesign Disk Space* dialog box containing information about free space on all drives appears.

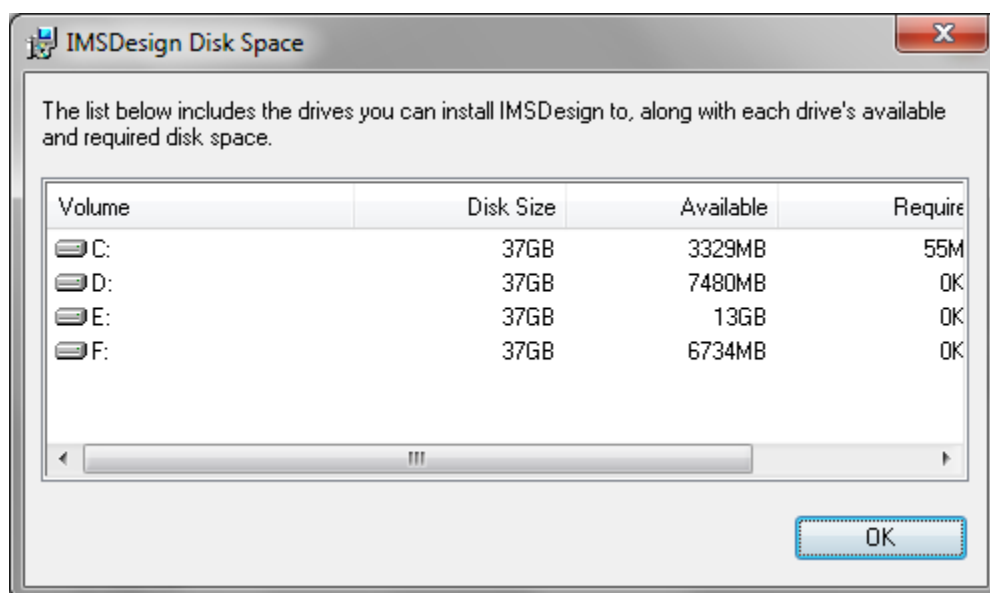


Figure 15 - IMSDesign Disk Space dialog box

Note: Use this information to determine the drive for the installation home directory.

4. Click **Browse** next to the **Folder** box to select the full path to the installation home directory.
5. To allow access to the IMSDesign application by all profiles, click **Everyone**.
To allow access to the IMSDesign application by your profile only, click **Just me**.
6. Click **Next**.
7. To start the installation, click **Next**.

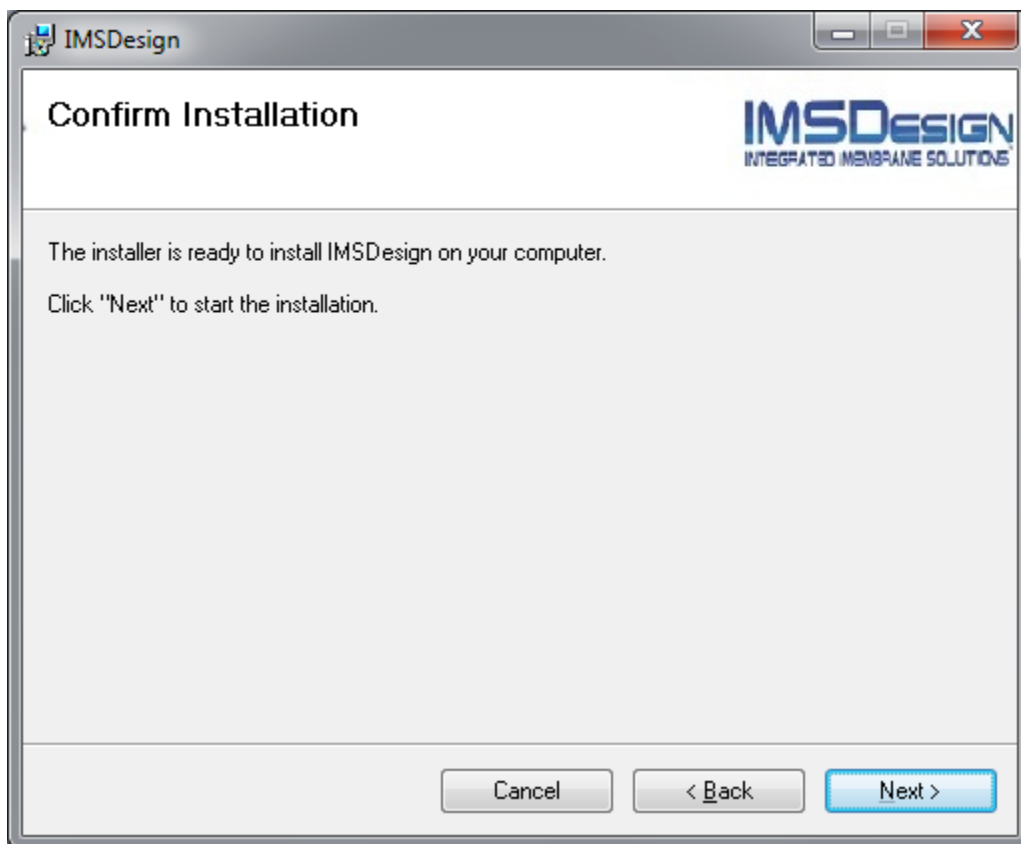


Figure 16 - Confirm Installation window

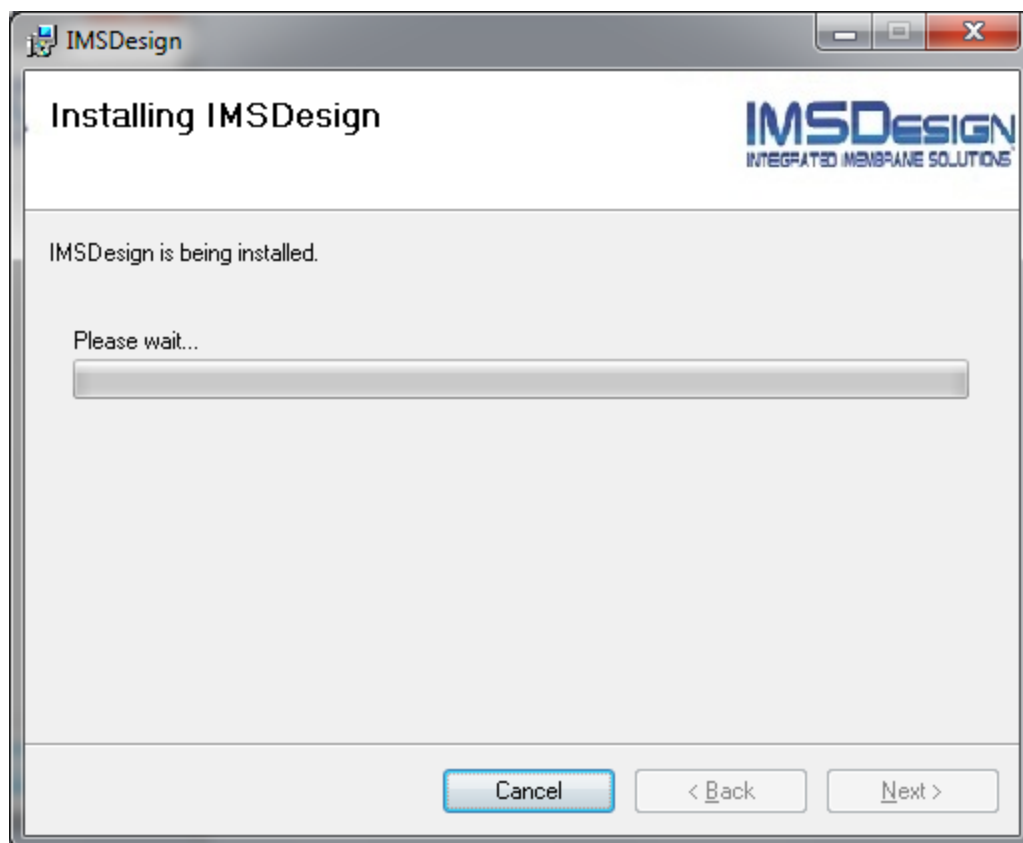


Figure 17 - Installing IMSDesign window

Note: The progress bar displays the progress of the installation.

8. Click **Next**.

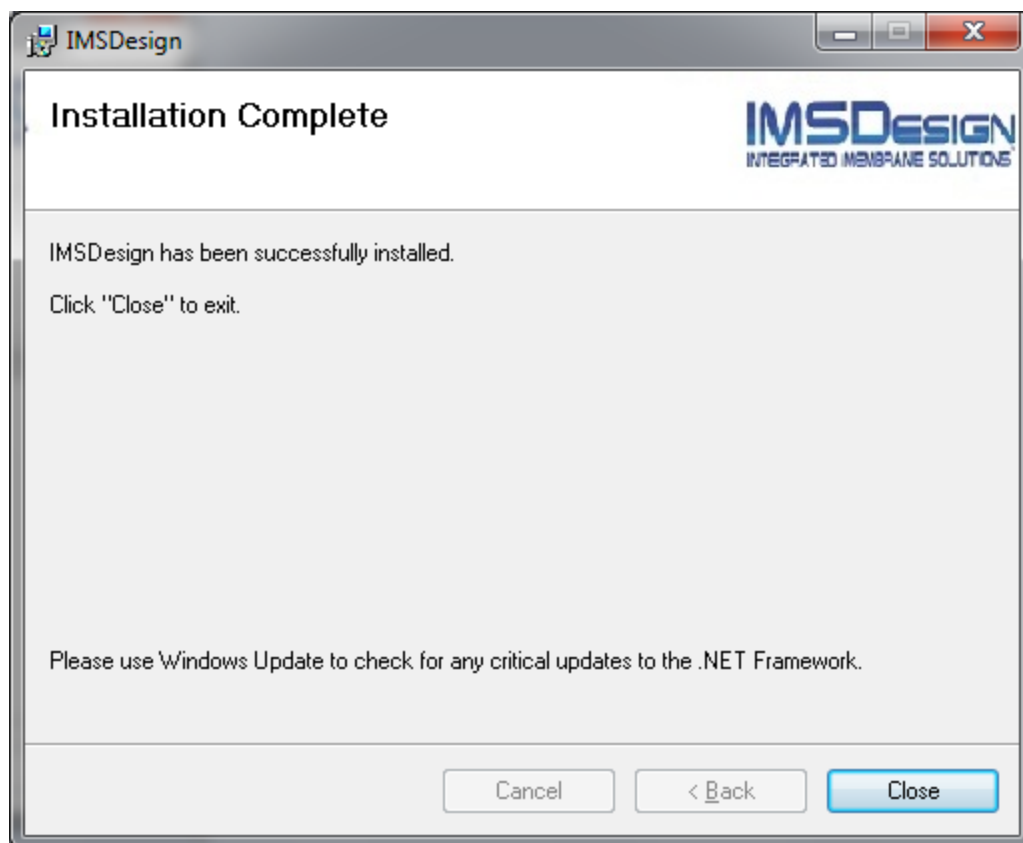


Figure 18 - Installation complete window

9. After the installation completes, click **Close**.

1.9 Install IMSDesign on Windows XP

Note: If your computer does not have an installation of Microsoft .NET, and Report Viewer, make sure that you perform the steps described in [Wizard-driven installation of Microsoft .NET, and Report Viewer](#) before installing IMSDesign.

To install IMSDesign on Windows XP:

1. On the Welcome to the *IMSDesign Setup Wizard* window, click **Next**.

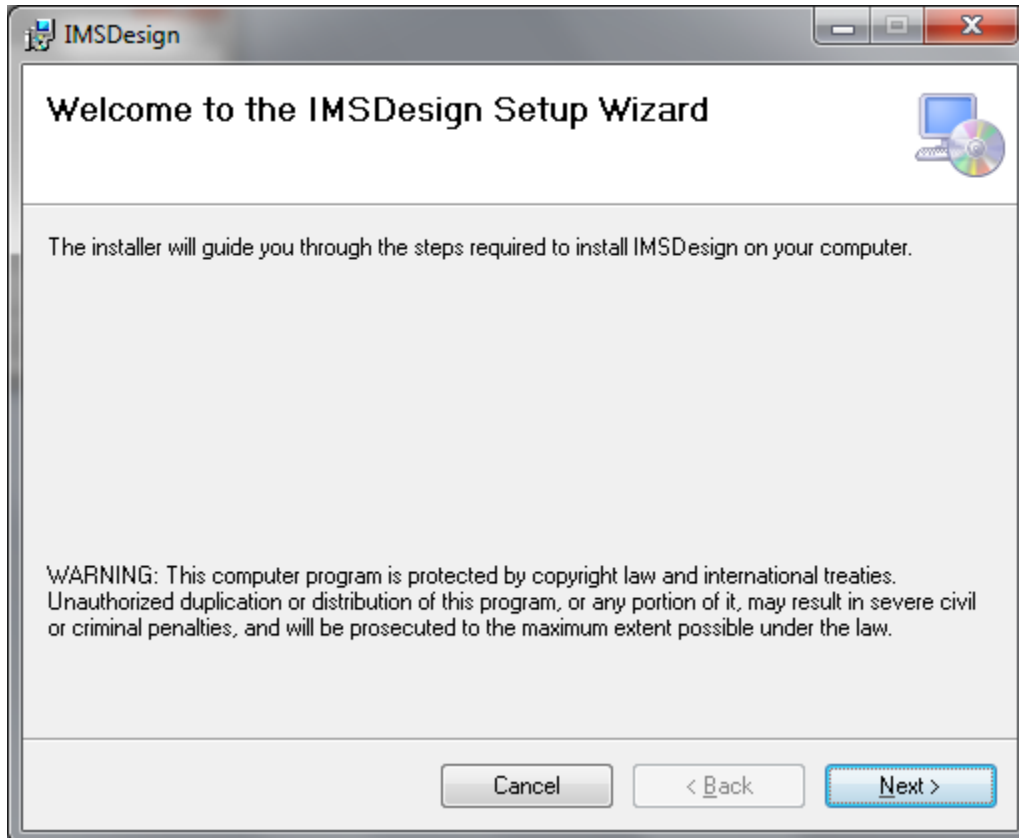


Figure 19 - Welcome to IMSDesign Setup Wizard window

2. (Optional) To determine the available space on all drives, click **Disk Cost**.

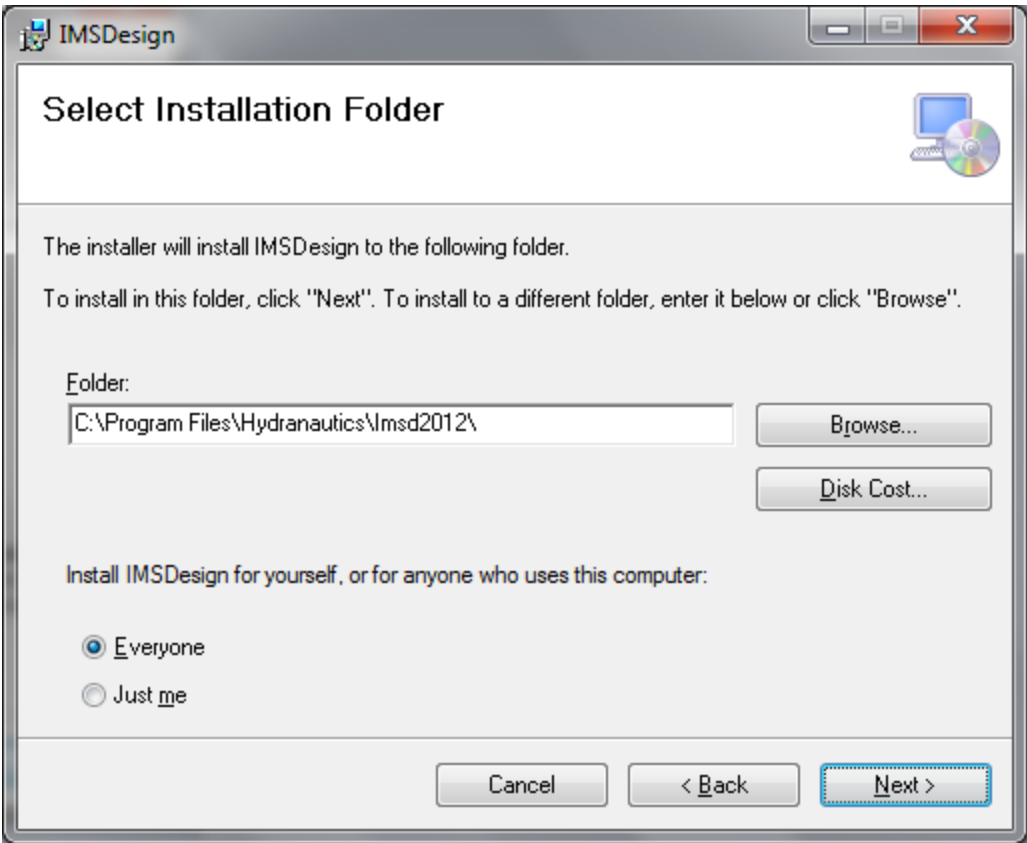


Figure 20 - Select Installation Folder window

- 3. The *IMSDesign Disk Space* dialog box containing information about free space on all drives appears.

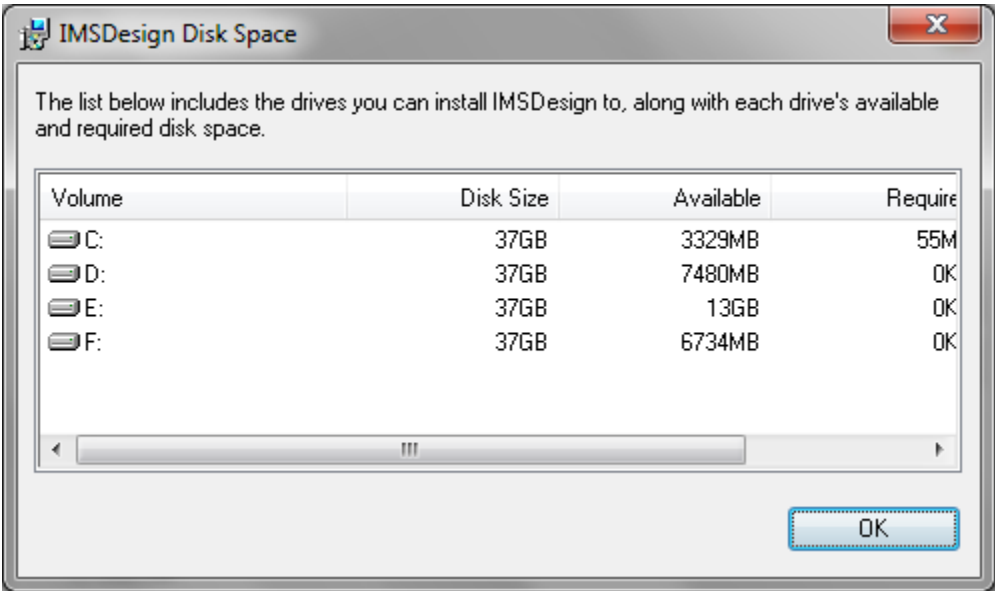


Figure 21 - IMSDesign Disk Space dialog box

Note: Use this information to determine the drive for the installation home directory.

4. Click **Browse** next to the **Folder** box to select the full path to the installation home directory.
5. To allow access to the IMSDesign application by all profiles, click **Everyone**.
To allow access to the IMSDesign application by your profile only, click **Just me**.
6. Click **Next**.
7. To start the installation, click **Next**.

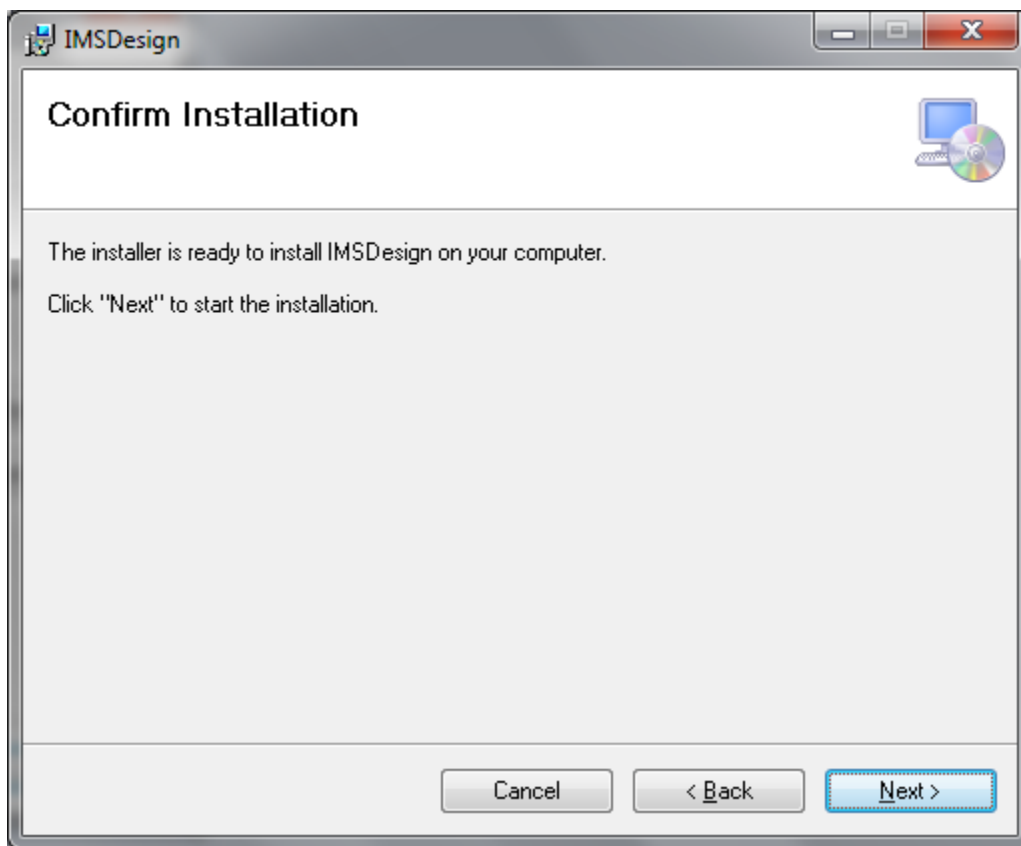


Figure 22 - Confirm Installation window

8. Click **Next**.

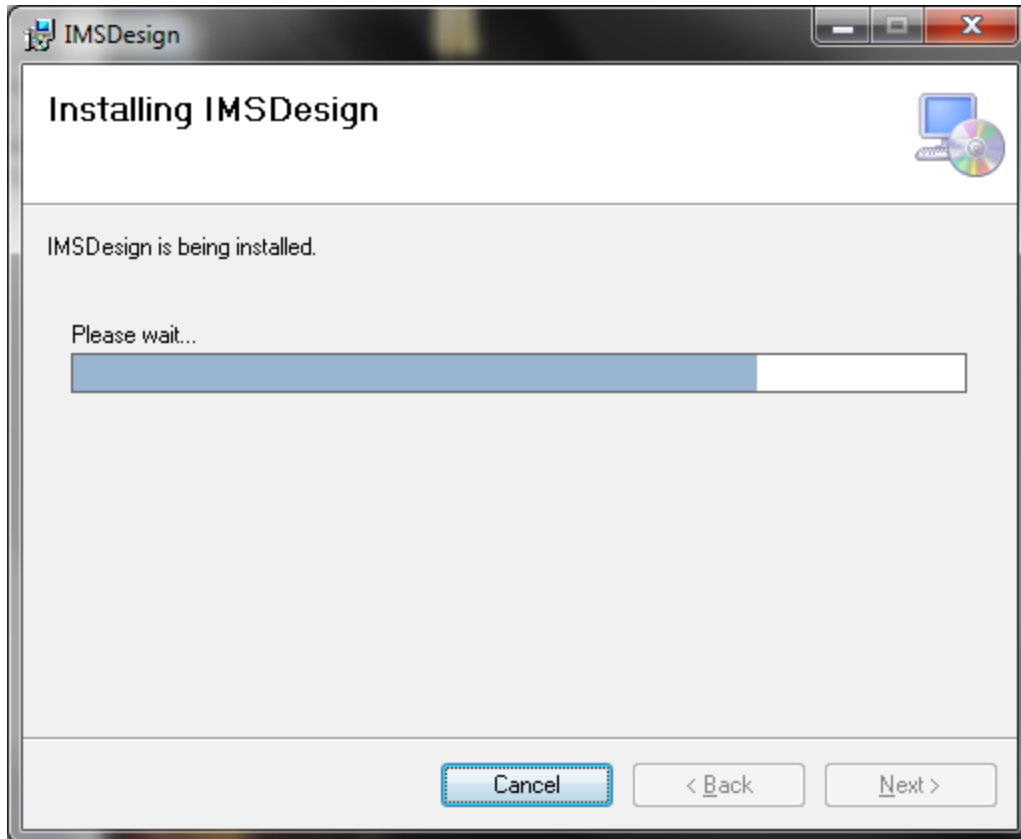


Figure 23 - Installing IMSDesign window

Note: The progress bar displays the progress of the installation.

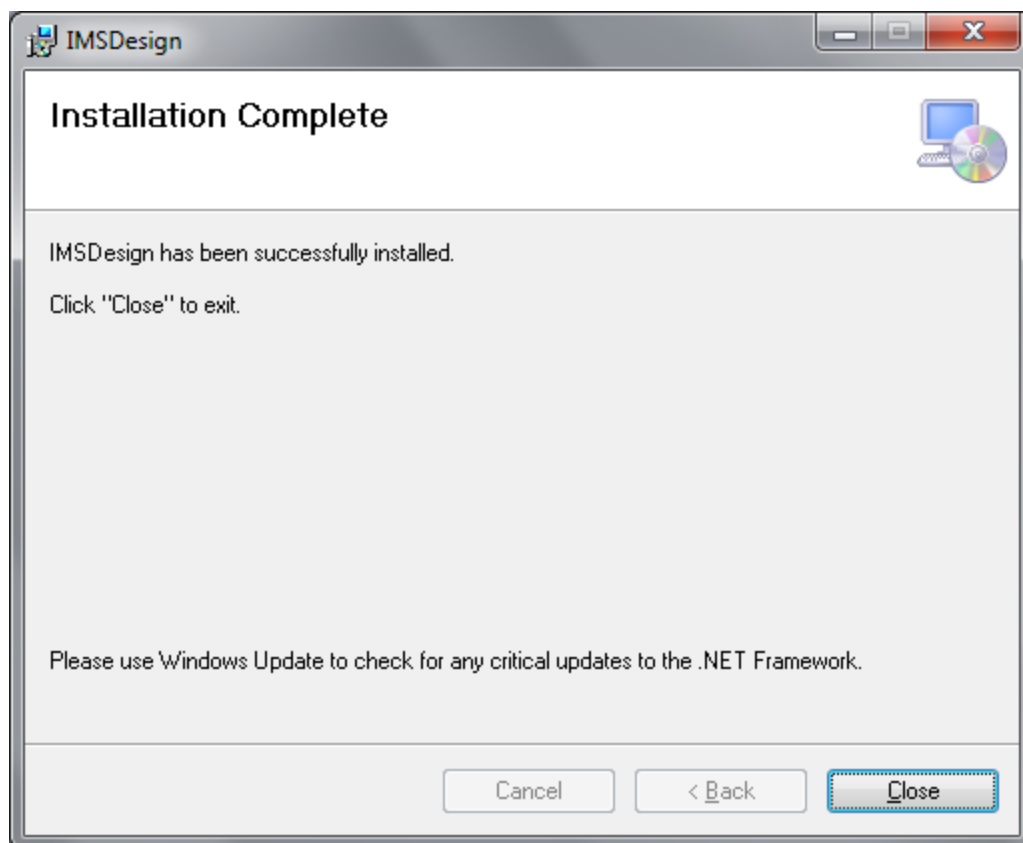


Figure 24 - Installation Complete window

9. To complete the installation, click **Close**.

1.10 Set Up IMSDesign

This section describes how you can start IMSDesign.

To start IMSDesign:

1. Click **Start > All Programs > Hydranautics IMSDesign**. The *Setup* window appears.



Figure 25 - IMSDesign Startup window

2. Provide the appropriate information for each field.

Note: IMSDESIGN displays calculated values according to these settings.

Table 1 - Field values for setting up IMSDesign

Field	Description
Default Language	3. Click the appropriate language. The IMSDesign user interface follows the language that you select.
Default Units	4. Click the appropriate units (American, Metric, or Custom) for measurement. The values of Pressure, Flow, Temperature,

	and Permeate Flux change accordingly. 5. If you select American or Metric, you cannot change the units for Flow, Temperature, and Permeate Flux. However, you can change the units for Pressure to m³/h, m³/d, and mld (Metric). For American units of measurement, you can set Pressure to gpm, gpd, mlgd, and mgd. 6. If you select Custom, you can set a combination of American and Metric units of measurement for Pressure, Flow, Temperature, and Permeate Flux.
--	---

7. (Optional) Select the **Do not ask again** check box to save the values.
8. Click **Continue**. The *IMSDesign startup* window appears.



Figure 26 - IMSDesign Startup window

9. If you want to create a new project, click **New Project**.

Or,

10. If you want to open an existing project, click **Open Project**.

IMSDesign Options

After you start IMSDesign, you can customize options for the Analysis and Design screen.

To set up IMSDesign options:

1. Start IMSDesign.
2. Under **RO Projects**, do one of the following:
 - a) To open a new project, click **New Project**.
 - b) To open an existing project, click **Open Project**. The *IMSDesign project window* appears.

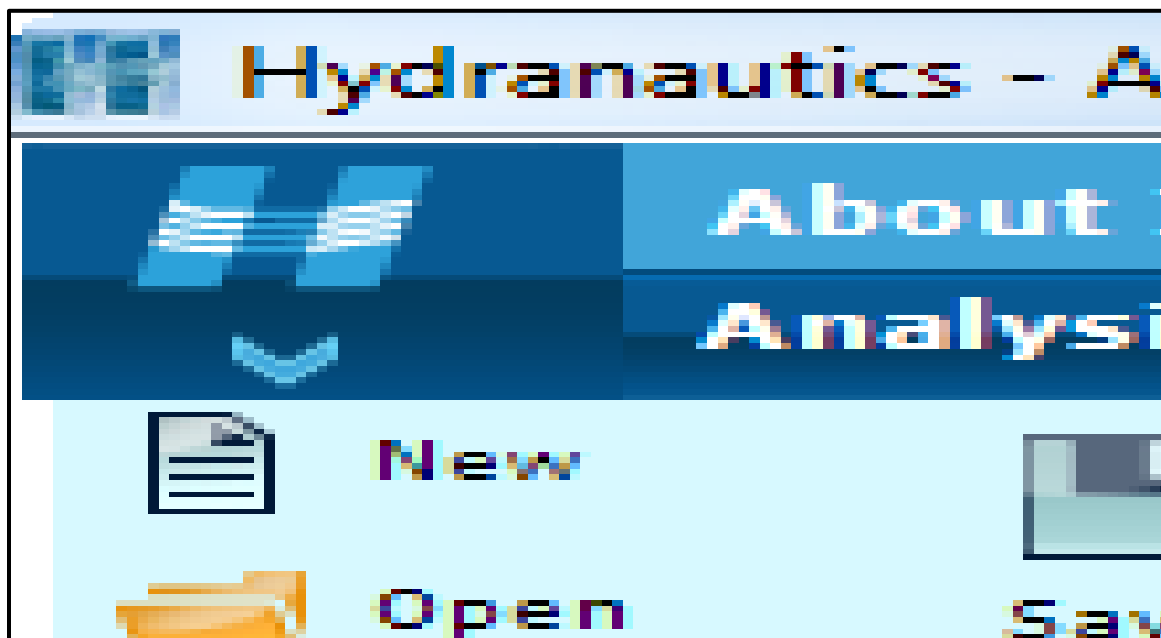


Figure 27 - IMSDesign Project window

3. Click the IMSDesign file button, and then click **IMSDesign Options**. The *IMSDesign Options window* displaying the Analysis Screen options appears.

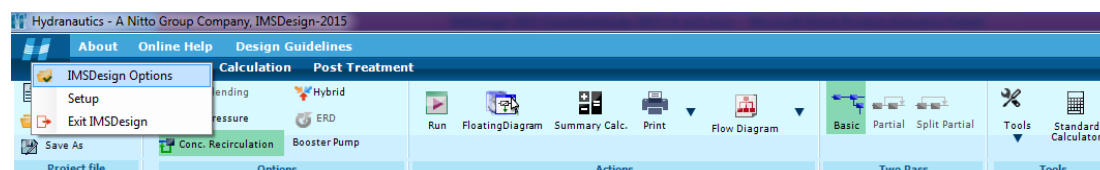


Figure 28 - Select IMSDesign Options on IMSDesign project window

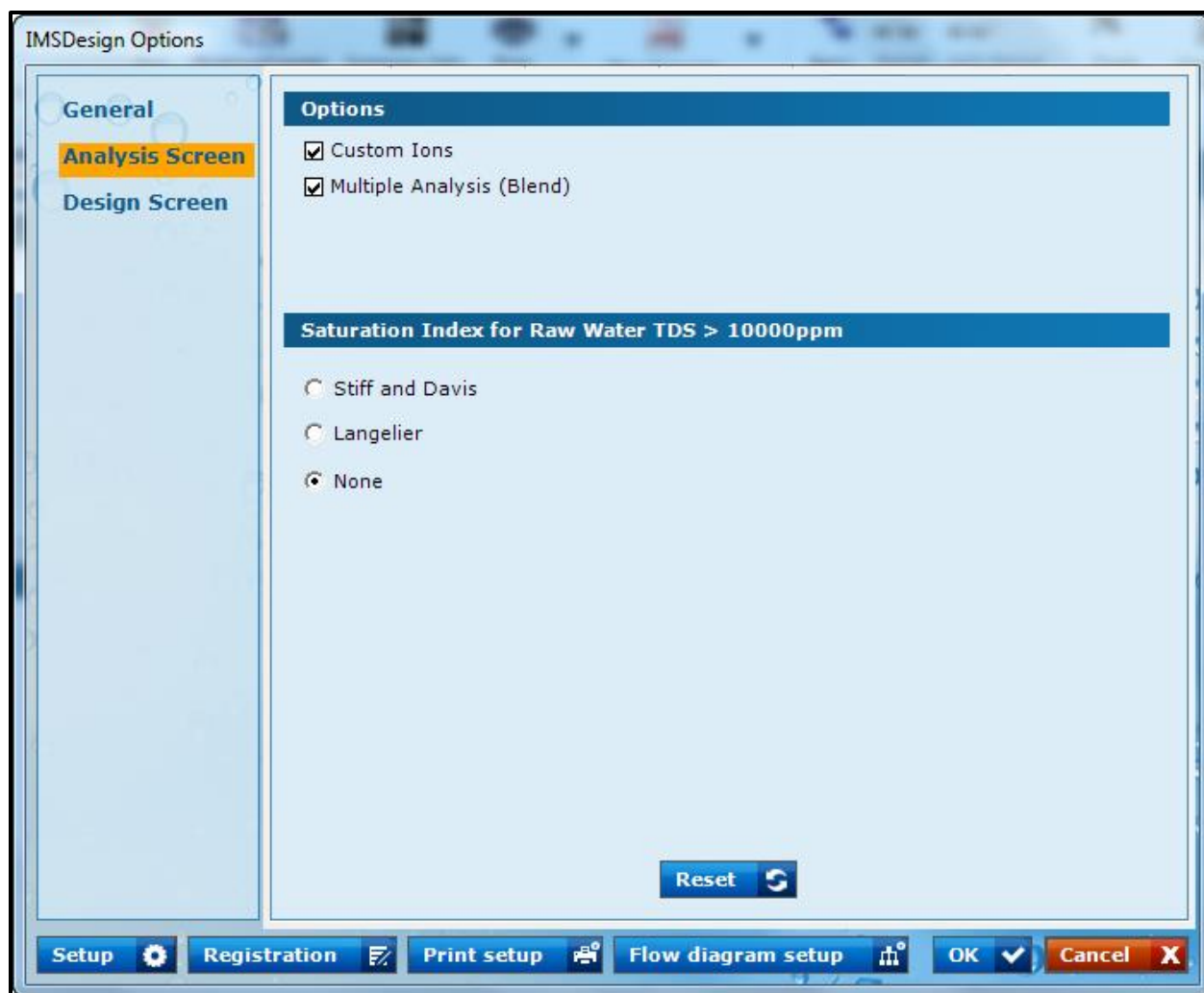


Figure 29 - IMSDesign Options screen

On this window, you can choose to:

- Set General options
- Set options for Analysis Screen
- Set Options for Design Screen
- Update IMSDesign setup values
- Register with IMSDesign

1.11 Set General Options

Under General Options, you can:

- **Tooltip for Actual value:** Enable tooltips for actual value.
- **Autobalance forcefully:** Auto-balance the ions forcefully.
- **Show Inter-stage pipe loss:** Choose to display inter-stage pipe loss.

- **SanRO Elements:** Select whether the application should display membranes for SanRO elements.

To set General options:

1. On the **General** section, select the appropriate check box.
2. In the **SanRO Elements** section, do any one of the following:
 - a) Select **Excluding** to display all membranes other than the ones associated with SanRO elements.
 - b) Select **Only** to display membranes associated with SanRO elements.
 - c) Select **All** to display all membranes.

Note: To reset the General Options values, click **Reset**.

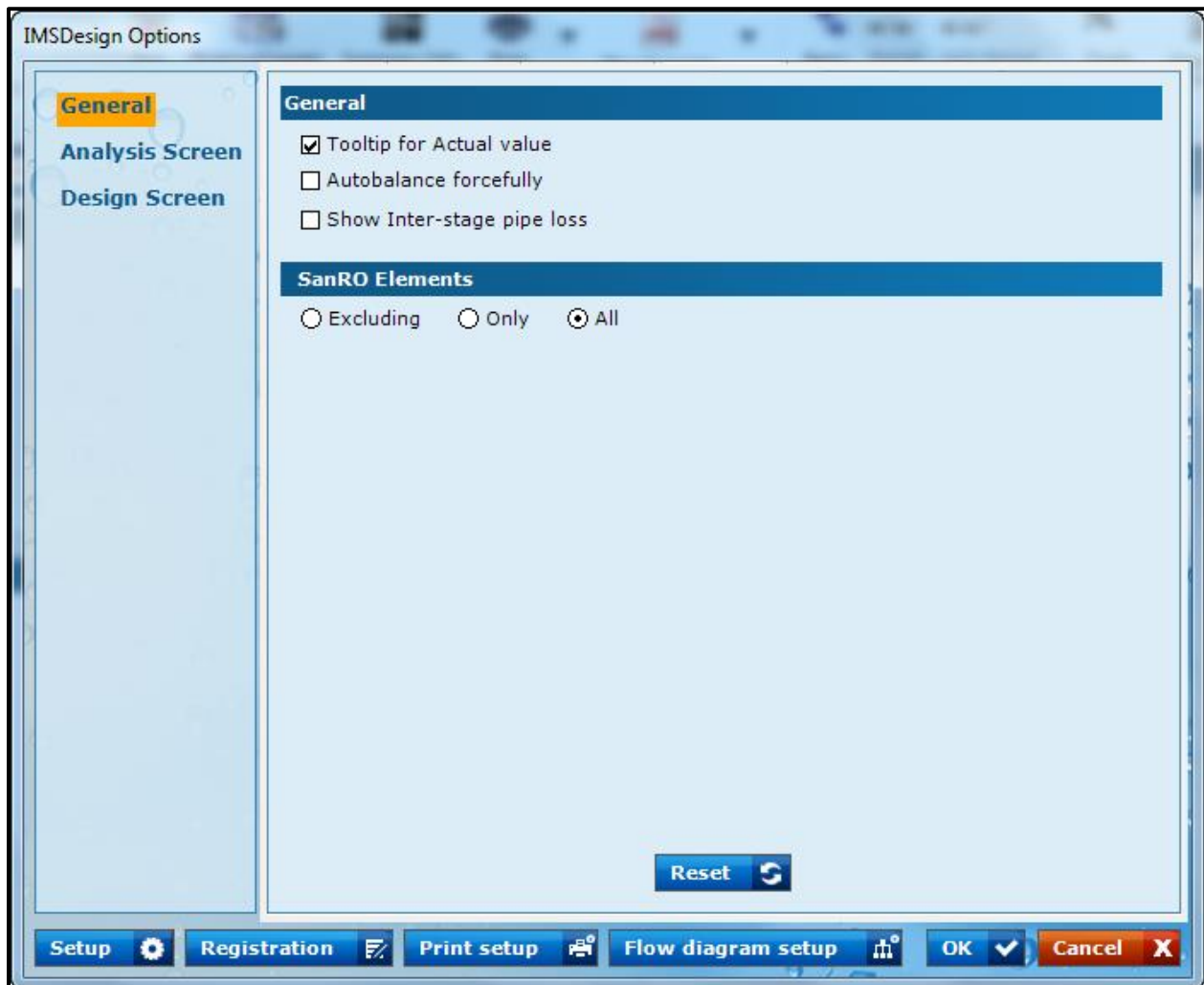


Figure 30 - IMSDesign General options window

1.12 Set Analysis Screen Options

Under Analysis Screen options, you can:

- **Custom Ions:** Enable adding custom ions.
- **Multiple Analysis (Blend):** Perform multiple analysis.
- **Saturation Index for Raw Water TDS > 1000 ppm:** Select the required saturation index.

To set Analysis Screen options:

- On the **Analysis Screen** window, select the appropriate check boxes.

Note: To reset the Analysis Screen options values, click Reset.

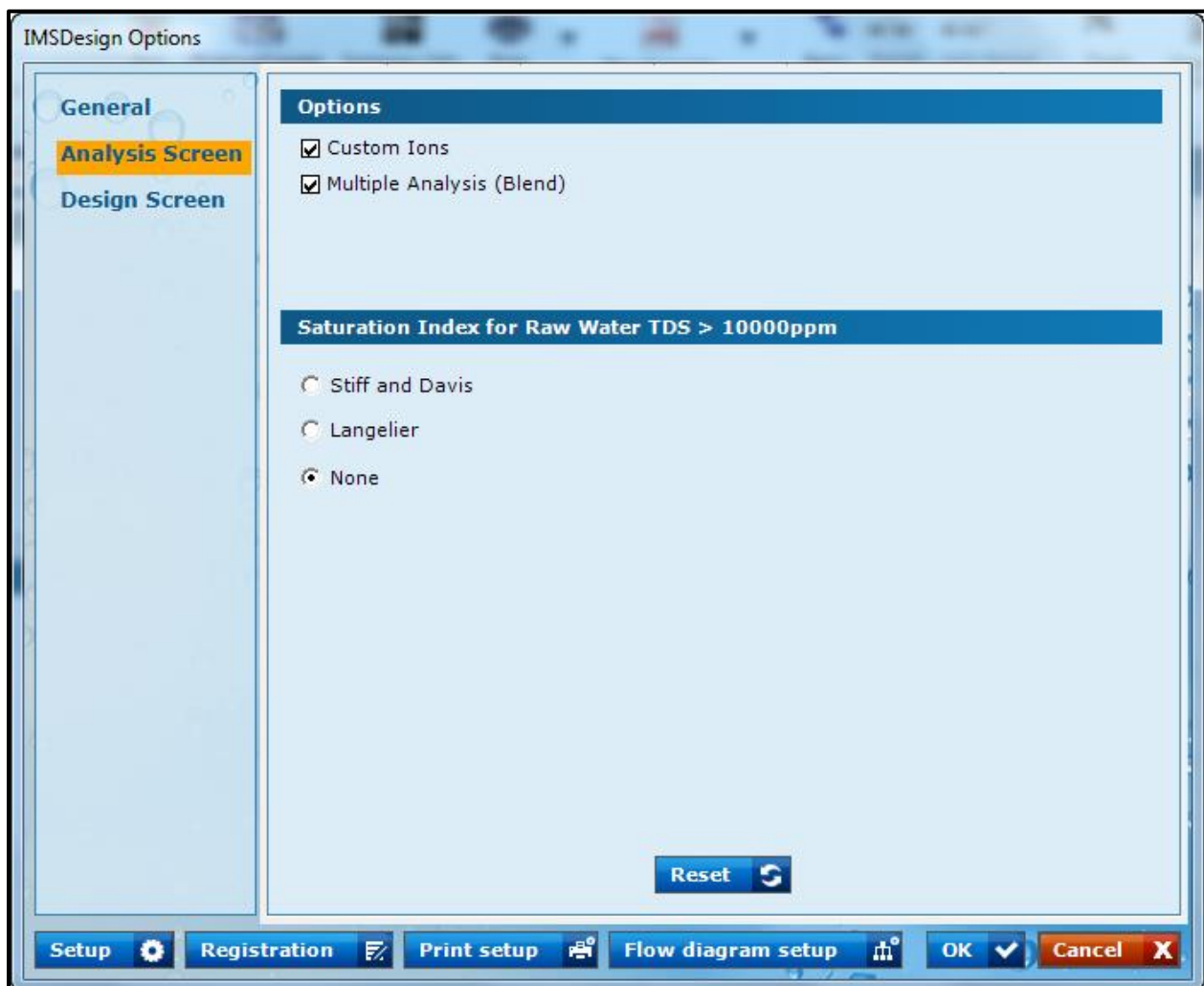


Figure 31 - IMSDesign Analysis Screen options window

1.13 Set Design Screen Options

Under Design Screen options, you can:

- **Features:** Set features for creating the membrane water design flow.
- **Others:** Choose to show elements according to water type and linear flux decline.
- **Total System Input:** Select the option for pass1 and pass2 trains.

To set the Design Screen options:

- On the **Design Screen** window, select the appropriate check boxes.

Note: To reset the Design Screen options values, click Reset.

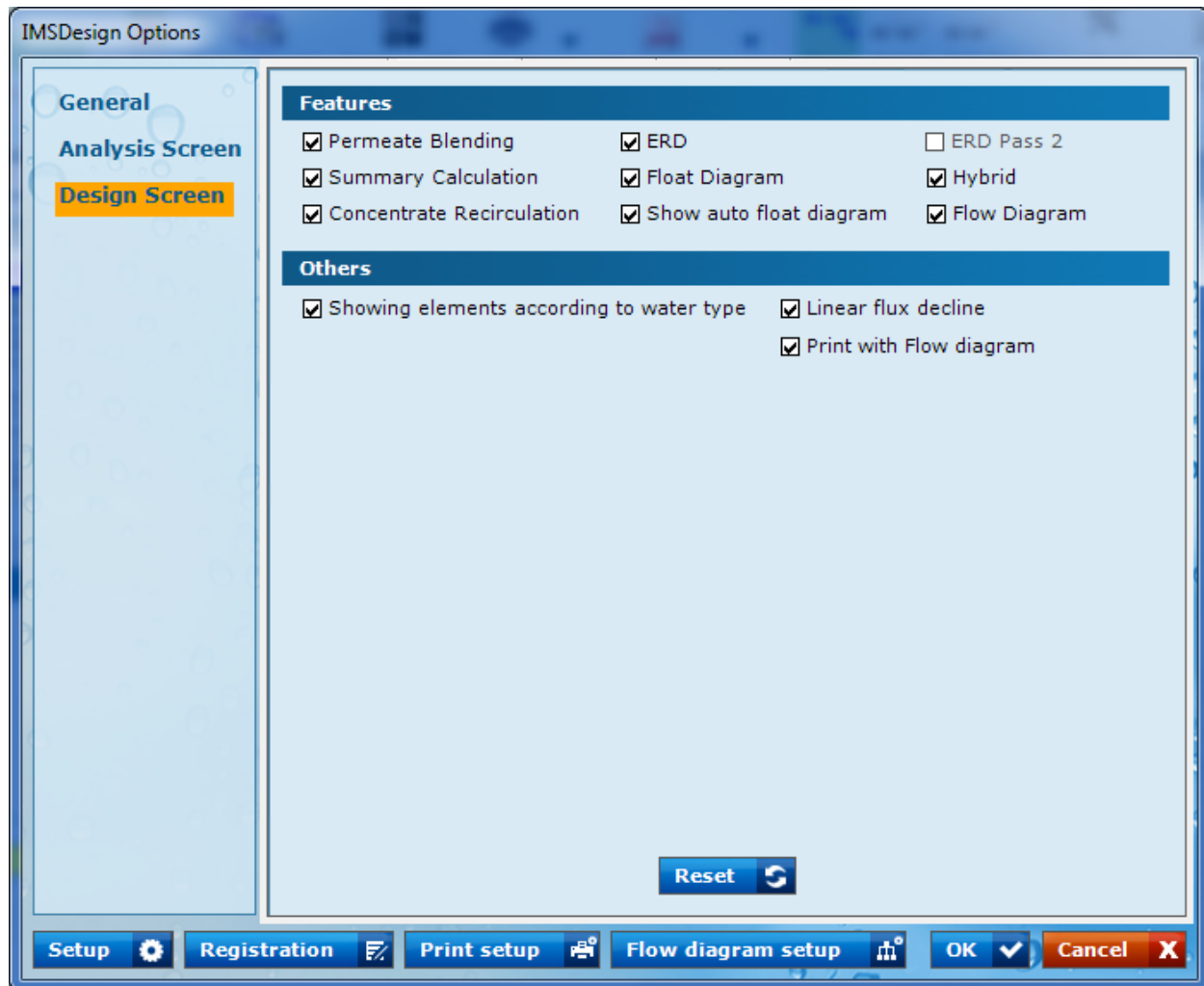


Figure 32 - IMSDesign Design Screen options window

1.14 Update IMSDesign Setup Preferences

Start > All Programs > Hydranautics IMSDesign

Perform the steps described in [Start IMSDesign](#).

Note: If you are on the General options window, Analysis Screen window, or the Design Screen window, click Setup to open the setup window.

1.15 Register IMSDesign

You can optionally register IMSDesign. However, to ensure that you receive information about latest updates, we recommend that you register your installation of IMSDesign.

1. On the **General options** window, **Analysis Screen** window, or the **Design Screen** window, click **Registration**. The *Registration window* appears.

Nitto HYDRANAUTICS
Nitto Group Company

REGISTRATION
(Internet Connection Necessary)

Register now and receive instant updates on IMSDesign upgrades and Hydranautics products and applications

☐ Information on Future Upgrades via email

☐ Information on Future Upgrades of Hydranautics Products, Applications, Technical Service Bulletin etc.

Talk to a Hydranautics representative to understand more about our products and solutions

2 Days left

First Name*
Last Name*
Email*
Company*
Industry*
Position*
Product of Interest*
Application*
Address Line 1
Address Line 2
City
Zip Code
Country*
ISD code*
Phone*
Reg. Key

imsd-support@hydranauticsprojections.net

Register Later Proxy Register Now

Figure 33 - Registration window

2. Provide the appropriate information about the following fields.

Note: Fields marked with an asterisk (*) are compulsory.

Field	Description
Information on Future Upgrades via email	3. Select this check box to receive information about future upgrades (upgrade details and the link to the installer) in an email.
Information on Future Upgrades of Hydranautics Products	4. Select this check box to receive information about future upgrades of Hydranautics Products, Technical Service Bulletins, and so on in an email.
First Name, Last Name	5. Type your name.
Email	6. Type your email address for registering IMSDESIGN.
Company	7. Type your company name.
Industry	8. Select your industry.
Designation	9. Select your position or designation.
Product of Interest	10. Type details related to product of your interest.
Application	11. Type your application number.
Address	12. Type your mailing address.

Zip Code	13. Type your area code.
Country	14. Select your country.
ISD Code	15. Select your ISD code.
Phone	16. Type your telephone number.
Reg. Key	17. Type or paste your registration key.

18. To register via a proxy server, click **Proxy**.

The image shows a 'Proxy' dialog box with a blue title bar. It contains several sections: 'Web Proxy' with a checkbox, 'Proxy Server' and 'Port No.' text boxes, 'Authentication' with a checkbox, 'User Name' and 'Password' text boxes, and 'Use Extra Setting' with a checkbox. At the bottom are 'Save' and 'Cancel' buttons. The background of the dialog box has a faint blue bubble pattern.

Proxy

☐ Web Proxy

Proxy Server Port No.

☐ Authentication

User Name :

Password :

☐ Use Extra Setting

Save Cancel

Figure 34 - Proxy Window

19. Select the **Web Proxy** check box.

Note: The other fields become available.

20. In the **Proxy Server** box, type the URL or IP address of the proxy server.

21. In the **Port No.** box, type the port using which you want IMSDESIGN to connect to the proxy server.
22. (Optional) If you want IMSDESIGN requests to be authenticated by the proxy server, select the **Authentication** check box, and in the **User Name** and **Password** boxes that become available, type the user name and password for authentication.
23. To select extra settings, select the **Use Extra Setting** check box.
24. Click **Save**.
25. To register immediately, click **Register Now**.
26. To register at a later time, click **Register Later**.

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