

INUVAI



Water Purification System Design

Summary

New product design contest on Desall.com: inuvai and Desall invite you to design the case style and the interface of an innovative purification system dedicated to water treatment.

Official contest page: <https://bit.ly/inuvai-system>

Company description

inuvai is an expert division of Fresenius Medical Care that offers innovative filtration systems tailored to the needs of different industries and laboratories.

With over 250 million m² of hollow fibres produced every year, Fresenius Medical Care is one of the largest membrane manufacturers in the world.

Coming from the medical field inuvai is accustomed to meet the highest standards required to safeguard the patient's life. With a broad portfolio of different systems, membranes, housings and permeabilities inuvai is able to answer to specific needs always providing highest purity, productivity and safety

What we are looking for

inuvai is looking for the **case design for a new water purification system** based on the use of ultra-filtration membranes capable of filtering nano-particles. This device can be installed in different configurations depending on where it is used, for example in public buildings or industrial settings.

For more information about the structure of the purification system, please refer to the downloadable *Material files*.

Guidelines

For the correct realisation of your proposals, keep into consideration the following guidelines:

Product typology: The system will be made up of **a number of units** which may be combined when the device is installed. **The contest will take into consideration 2 main units.**

- **Filter unit:** it shall have easy access from the front of the case through a main standard inspection door. The door shall be easy to open and may also be transparent;
- **Hydraulic unit;** it shall have easy access from the back of the case through a service inspection door.

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Interface: As far as the use of the purification system by an operator is concerned, the device is very simple, with **only an on/off interface**. Indeed, the entire purification system will be controlled by an artificial intelligence algorithm. There are no particular indications concerning the type of switch, which must however be consistent with the aesthetics of the product and easily accessible.

One of the most innovative aspects of the product will be the device feedback interface, which will not be based on the display, but will use dynamic light signals that can be directly obtained from the surface of the case (preferably areas of light) and should be visible for a distance of 10 mt approximately. The indicators shall be positioned on the front surface of the unit, at the main inspection door and preferably the status should refer to each one of the two banks (rows) of filters. You can also think of light signal areas in other device parts.

Below is a list of states that the device will need to communicate and which you are invited to design:

- filtration on: the filter is running and the dirty water is passing through the membranes and the purified water is produced;
- aging status: filtering the dirty water many particles of dirt are trapped by the membranes reducing the filtration capacity. This status should indicate the remaining filtration capacity of the single filter/row of filters;
- back wash: is the process to wash the filter membranes taking away the particles and release them in the drain water;
- leak test: the system is checking if there are any leak in the process;
- bank down / defect: this bank is out of order, a technical intervention is needed;
- system stopped (but power on): system is on but not processing the water, available for intervention.

Aesthetics and shapes: the concept and technologies behind this system are very innovative compared to the standard products of competitors. This approach and the ease of use for the operator should also be reflected in the shapes and aesthetics to be sought.

It is therefore necessary to redefine the aesthetics of this product typology, abandoning a style purely linked to the hydraulic world and aiming for **a technological and avant-garde character. A simple, minimalist and high-tech style** will be particularly appreciated.

With regard to the second design approach, the modular one, from an aesthetic point of view, the various elements **should be imagined as independent but at the same time characterised by aesthetic compatibility and formal balance**, so that they can be combined to get the configurations desired by the client.

There are no special colour indications, but the colour of the case must take into account the possibility that the system will be installed in places where there is considerable accumulation of dust. It may be possible to identify the various units by using a different case colour.

Please refer to the downloadable *Material files* for benchmark product examples.

Logo: you are recommended to include the inuvai logo on the case of the system by ensuring it is adequately visible. The logo can be part of the light interface of the device. The vector file of the logo is provided inside the *Material files*.

Materials: Plastic is preferred for the case. **It will be highly appreciated to search for alternative materials, preferably recyclable or recycled, suitable for the use contest of the product.** The case of the device, which is featured by large surface areas, must be manufactured using the most suitable production techniques, for instance plastic thermoforming, sheet metal moulding, etc.

Please always consider product industrialisation, avoiding any processing or solutions that are not compatible with mass production.

Where to use: places where the purification system is installed are technical areas of establishments open to the public, such as swimming pools, hospitals, hotels, or industrial settings, like fish farms.

Deliverables: upload all the images that better present your projects. The images in the gallery (maximum 5) must have a proportion of 4:3; allowed format file: .jpg, .gif or .png; colours: RGB; max file size: 1MB. **As regards the representation typology, a 3D render is preferable, but project sketches are also allowed.**

Evaluation criteria: in the evaluation of your submissions the Sponsor will take into account the following criteria:

Aesthetics 5/5

Degree of innovation 5/5

Technical feasibility 4/5

Robustness and durability 4/5

Economic sustainability 3/5

Language: since we are an international Community, all texts provided with your uploads (abstract, description, tags, etc.) should be written in English.

Contest Timeline

Upload phase: 5th May 2021 – 3rd August 2021 (2.59 PM UTC)

Client vote: from 3rd August 2021

Winner announcement: approximately before the end of October 2021

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Submission Guidelines

Project images: the first image attached from the upload page will also be used as the preview of the project in the gallery. In order to better present your project and draw the attention of the sponsor, we suggest you to choose a content that provides an overall idea of the whole project in one single image, briefly including all the contents that will be further presented in the following images.

We also suggest you to use all five image slots available from the upload page of the contest and - where possible - to present several views of the project giving also an indication of the main dimensions of the product.

For product design contests in particular, we suggest you to include at least one image with your project on neutral background and no writings.

For the rendering and presentation of your project, the use of copyrighted images, even if slightly edited, is prohibited.

In case of using materials owned by third parties (ex. stock images, stock videos, texts, etc.), make sure you are granted all the licenses needed for participating in the contest, as further specified in the Contest Agreement.

In case of submitting multiple projects or concepts, you have to repeat the upload procedure for each project: do not submit multiple projects with a single submission.

You are required to upload at least 1 image; image ratio: preferably 4:3; allowed file formats: .jpg, .gif or .png; colour mode: RGB; maximum file size: 1MB.

Descriptions: we suggest you to use the appropriate fields, “Abstract” and “Description”, to include all textual information about your project. We discourage you to include textual description inside your images, as they might result difficult to read (at all events, we suggest you to include at least one image - if possible - with your project on neutral background and no writing). In the “Abstract” field you have maximum 500 characters to include a short summary of your project while in the “Description” field you can include all the remaining information.

Additional material: in addition to the project images, you are invited to attach further materials in a .ZIP archive (NO other file extensions are allowed, such as .RAR) through the “Archive File” field on the upload page. Among the various materials, you may include CAD files, PDF with further descriptions on the project, photos of any models or prototypes, high-resolution images of the project images and 3D files (preferably in .stp or .igs format - you may also include a PDF 3D file for a rapid visualisation). The maximum size of the .ZIP archive is 100MB. You may also attach a video presenting your project through the “Video File” field from the upload page, including it inside a .ZIP archive with a maximum size of 50MB.

Concept revision: revision of your project by the Desall team. In order to request a revision, upload your project including the description and save it as draft (SAVE DRAFT) from the upload page and send your request to the Desall Team via e-mail or through the contact form. The revision is NOT mandatory: it serves only as a further opportunity for the participants but does not constitute a condition for participation, nor does it constitute any advantage in the final evaluation.

Hidden option: only in case of public gallery contests, you can submit your project with “hidden” design privacy option, provided that you submit your project within the first half of the upload phase. By doing so, your project will remain hidden for all other users until the opening of the Community Vote, if any. At all events, your project will always be visible for the Sponsor regardless of the submission date. This option is automatically disabled once the first half of the upload phase has expired: you can find the deadline for activating this option in the Optional deadlines paragraph inside the brief.

You can find further instructions on how to create your account, how to submit your project and other information in the [Tutorials](#) and in the [FAQ](#) sections.