

t-sculpt™ thermosculptural radiators

Technical Catalogue

PHOSPHORUS
I M P E R F E C T

ARTS | CRAFTS | INDUSTRY | SCIENCE

Technical Catalogue 01/2017

This technical catalogue cancels and replaces the previous ones and is effective from 1 January 2017.

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As part of our strong commitment to the continuous improvement of our products, Phosphorus Imperfect Srl reserves the right to make any changes considered necessary.

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Formal and technical aspects of a new and exclusive approach to the concept of heating which combines aesthetic sophistication, high functional performance, and the quality of the materials used. The radiator as a beautiful part of the architecture of the building, as well as a highly efficient and durable part of the heating system.

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77 t-sculpt™ technology

The distinctive characteristics of a patented technology that allows us to imagine and produce objects with almost unlimited possibilities of shapes and applications, and incredible functionalities and durability.





WHO WE ARE

WE EXPLORE THE INTERSECTION OF ART, SCIENCE, CRAFTSMANSHIP, AND INDUSTRY TO DESIGN AND PRODUCE AMAZING OBJECTS

Right from the start, our mission has been to design a place where creative disciplines, technology and manufacturing can coexist and become fully integrated.

As a result, we have created what is at once a multidisciplinary design studio and a manufacturing firm where high skilled profiles and talents from the worlds of contemporary art, product design, engineering, and material science work together in our factories and artisan workshops.

Technological leadership, gained from over 50 years of experience, and an ongoing dialogue between industrial manufacturing and craftsmanship, allow us a freedom of expression not possible with mass production systems.

Through our casting processes we produce stunning visual works with extraordinary functional properties, able to transform the look and feel of the settings in which they are installed.

Our technology, people, and versatile and easily adaptable processes offer us a greater scope to produce the products from our catalogue collections and also to provide exclusive designs to extreme levels of customization.

Our multidisciplinary studio, our three production facilities, and our wide network represent an ideal blend of creativity and productivity and enable us to execute ambitious projects that call for extensive knowledge of materials, cutting-edge technologies, and the skills of true craftsmen.

Beauty and Technology
Multidisciplinary Vibrancy
Research and Freedom
Craftsmanship and Industry
Green Spirit
Versatility and Efficiency



t-sculpt™ THERMOSCULPTURAL RADIATOR

NEXT:
Flat Contour Thermosculptural Radiator, finish
NUDE ALUMINUM™ Fluid with Arlechink
ALUMINUM TATTOO™ and 45° brushed bevel
64x125x6cm

TECHNOLOGICAL BEAUTY AND EFFICIENCY

Phosphorus Imperfect's thermosculptural radiators represent an exclusive new approach to heating and are the result of a history of technological innovation and long formal research applied to the use of our leading patented t-sculpt™ process.

We use t-sculpt™ to design and produce objects that combine esthetic charm with high levels of performance and quality materials, because we believe that radiators can actually be a beautiful part of the architecture of the building in addition to being an efficient, long-lasting part of its heating system.

We have sought to convey the uniqueness and the distinctive features of our t-sculpt™ production process by designing products that show off their form and finish, while refocusing attention to detail and decorative elements that, in the past, were the sign of great craftsmanship, combining manual work with advanced technologies. Our works display an eclectic style that ranges from discreet, formal minimalist simplicity to organic shapes or patterns with a strong personality, using a wide range of finishing processes developed entirely in house to create amazing visual and tactile effects. The results can be seen in our t-sculpt™ radiators, a highly diverse line of products which can blend harmoniously with the existing design and architecture, while accentuating qualities, or give a space an entirely new look, be it classical, modern or contemporary and allowing a new personality to emerge.

This is an original concept of heating system not only in terms of form, but also for the many functional benefits and the quality of performance. Our t-sculpt™ process enables us to create designer radiators that provide high levels of comfort while being extremely versatile and easy to install, making them the ideal solutions for new spaces or renovation projects, whether for domestic or commercial applications. All our models are made using highly durable and recyclable materials, such as aluminum and stainless steel, and use very little water, thereby ensuring energy savings while expressing our great commitment to the environment.

Further underscoring the exclusivity of our products, even the objects found in our official catalogue are highly customizable. In addition to the vast selection of standard finishes available for each model, our great design and manufacturing flexibility enables us to provide a full range of services at multiple levels, such as developing a custom finish not included in our Finishes Catalogue or a particular product size or even creating a new shape in order to perfectly integrate the radiator into its architectural context. In short, we can guarantee your installation is uniquely suited to you.

Innovative Shapes and Finishes
Energy Efficiency and Comfort
Versatility and Ease of Installation
High Quality Standards
Respect for the Environment
Extreme Levels of Personalization

A WIDE RANGE OF SURFACE COLOURS AND NEW FINISHES TO CHOOSE FROM

Meticulous attention to detail is taken with every Phosphorus Imperfect product, every object can be customized in a wide range of colour schemes and finishes, applied with a craftsman's skill to the highest quality standards.

In order to adapt in the best possible way to space and tastes, and meet the requirements of both professional and private customers, we went beyond an extensive palette of paints, to develop an ongoing research and experimentation let us create and develop a range of innovative finishes with truly astonishing aesthetic qualities. Surfaces where the manual intervention of the craftsman is essential to render colours and details almost impossible to reproduce with mass production systems.

And as this is a craftsman's work of the very highest quality, some things that at first sight might seem apparent imperfections in certain types of finishes, and differences in tone or colour, are planned in the design phase and can only be considered a sign of quality as they add character to the result, making it a real one-of-a-kind.

Consult our Finishes Catalogue to see the vast selection of available colours and finishes.

ADDITIONAL STANDARD COLOURS FOR EACH MODEL AT NO EXTRA CHARGE

Most t-sculpt™ products are available not only in the white painted version, but also in additional standard finishes, for no extra charge. This is another thing that makes our thermosculptural radiators stand out from the crowd, compared to similar products on the market.

Although every model in the catalogue is available with some specific standard finishes, in our Finishes Catalogue there is an ample choice of alternatives for full custom options..

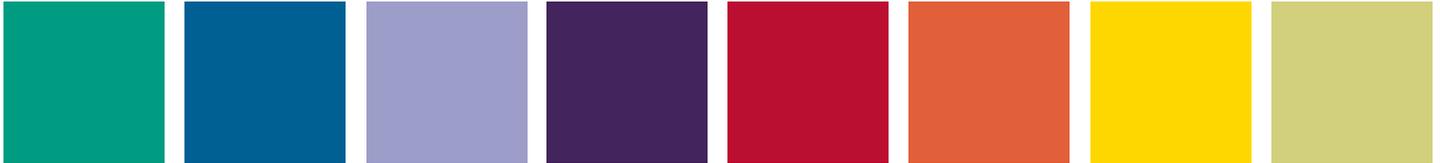
You'll find a sheet in our product catalogue for every model, with the standard finishes and others available for a surcharge.

RAL, NCS, PANTONE® COLOURS

Our Studio analyses the most interesting colors to include in the catalogue, carefully considering trends and forecasts from major international Interior Design and Fashion reports, as well as those from Architecture.

In our Finishes Catalogue, you'll get a good idea of the available custom options for our products, and you can choose a particular type of paint such as RAL, NCS or PANTONE® some of which also come with an antibacterial formula.

These paints are all applied in a polyester powder-coat to guarantee the very highest aesthetic quality, mechanical strength, scratch-resistance, and resistance to corrosion and UV rays.



CUSTOM FROM A SAMPLE OR BESPOKE COLOURS AND FINISHES

Choose between thousands of different colour variations in the RAL, RAL CLASSICS, RAL DESIGN, NCS or PANTONE® ranges by simply providing us with your preferred colour code.

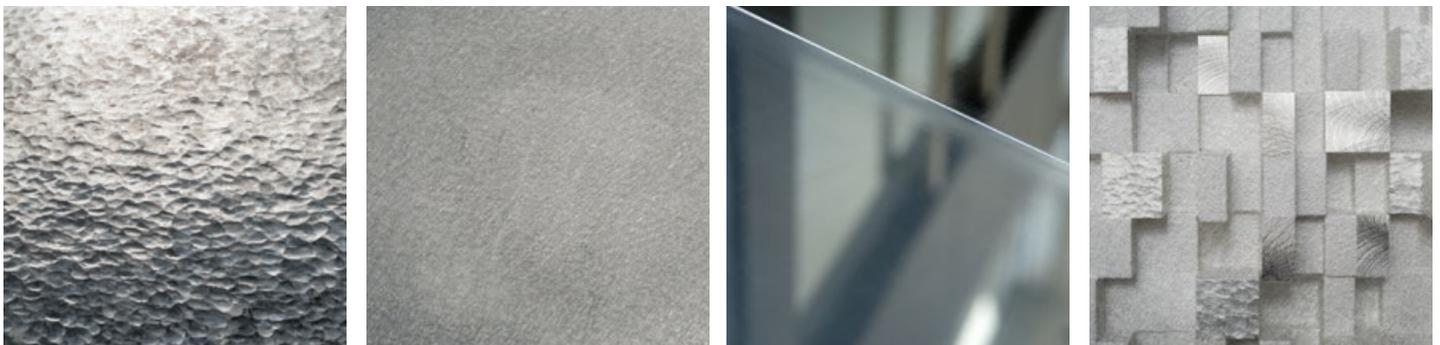
We also have a colorimeter, and on request we can develop special paint from samples provided by the customer, in order to reproduce for example the colour shade used on the walls of a room, or to match the tone of your furniture.

Also on request we can combine different catalogue finishes in the same object or create and develop new exclusive bespoke finishes you won't find in our Finishes Catalogue.

We can reproduce on the object textures or decorations of your room and apply a reactive patina finish that brings out the natural material aspect of the surfaces or make some parts reflective and others quite rough... Your range of choice is really limitless...

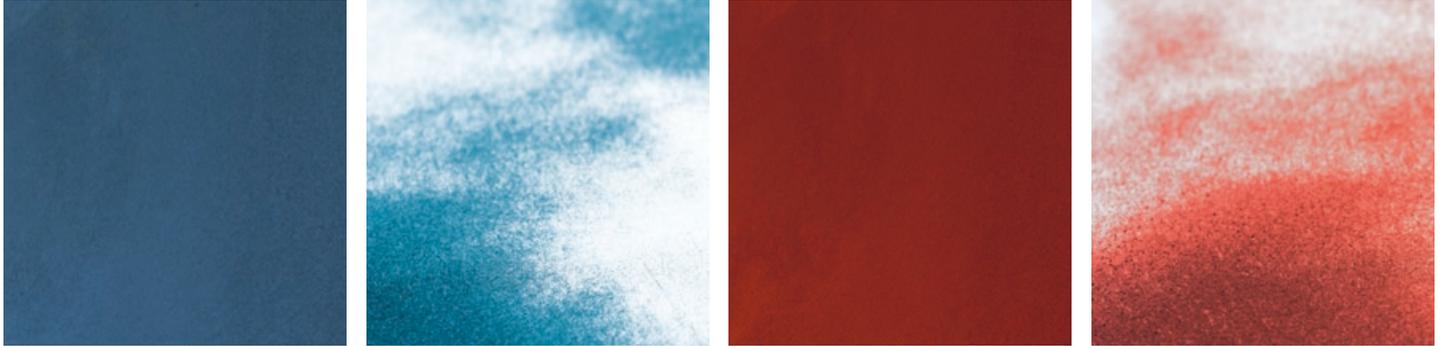
NUDE ALUMINUM™ FINISHES

Each object of this finishes family is subject to its own particular processing that takes into account aluminum characteristics, to highlight natural colour, rugosity and reflectivity: from the neat minimalism of perfectly polished surfaces, to the refined marbling of opaque or reflective textures, this series of finishes represents a truly unique touch where dedication to craftwork translates into a singular tactile and visual experience.



OXIDATION AND PATINA FINISHES

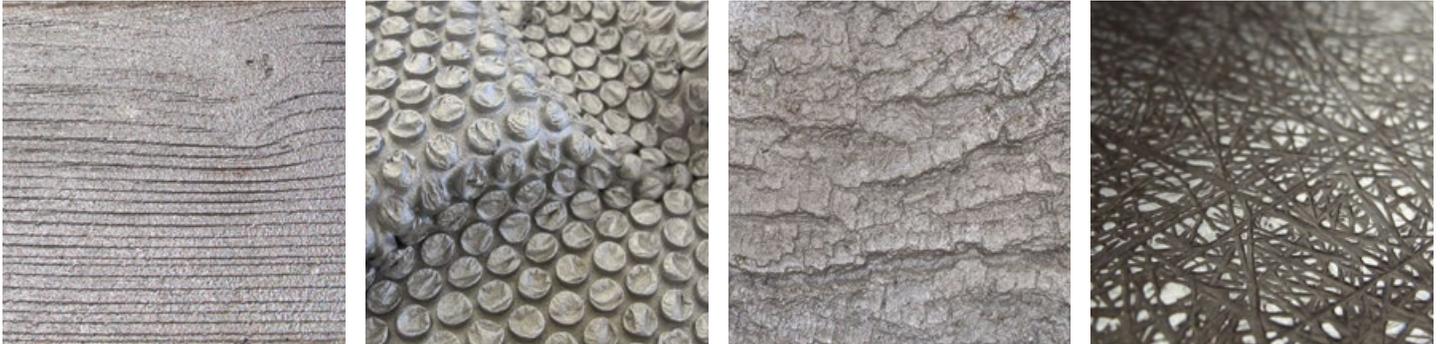
With these effects, we can enhance the characteristics of our light alloys using technology which doesn't create a coating, as is the case with a painted finish, and exploits the intrinsic chemical and physical properties of our objects. These finishes are obtained using surface chemical treatments that react with the metal, penetrating into the porous surface of the material, bringing out the natural roughness and highlighting even the tiniest difference in the surface, for new and absolutely amazing optical and tactile experience.



ENGRAVINGS, 3D RELIEFS AND IMPRESSIONS FINISHES

Engravings and 3D relief designs combine naturally in our workshops. More than just surface treatments, these are true sculptural works.

We can create projecting figurative elements, as in the bas-relief tradition, or sophisticated engraved lines in a variety of different styles ranging from liberty motifs to geometric patterns or even impressions of natural or artificial materials. These finishes, more than any other type, highlight the singular 3-dimensional characteristics of our creations; the perfect harmony of function and form.



ALUMINUM TATTOO™ FINISHES

We developed a special research project for this type of finish to study the possibility of applying graphics or photographs to aluminum surfaces using an oxidation technique that penetrates into the porous surface of the material. We enhance the intrinsic chemical and physical characteristics of our alloys using new printing technology that brings out the natural texture and finish of the material in our objects, without having to coat them. These treatments can be used to apply complex and refined visual details, offering full product customisation options: graphic motifs in fact can be chosen from the catalogue, or created to meet the customer's own specific requests.



ENERGY EFFICIENCY AND COMFORT

An intelligent use of energy is the key to comfortable living. Technological advances in climate control systems over recent decades has led to the realisation of increasingly sophisticated user and environment-friendly devices and equipment. With the development of its patented t-sculpt™ technology, Phosphorus Imperfect has opened up new frontiers in the field of energy efficiency applied to comfort. The new line of thermosculptural radiators is the perfect synthesis of this concept: Unique, inimitable products, conceived and created in Italy which incorporate revolutionary technical solutions in their extraordinary design.

FAST RESPONSE TIME TO HEAT UP THE ROOM RAPIDLY

In Phosphorus Imperfect's new thermosculptural radiators, the patented t-sculpt™ technology achieves high levels of efficiency thanks to three constantly interacting key factors: the high-level thermal properties of aluminum as the main material used in the radiator, the optimal heat-exchange surface area between the steel pipes carrying the hot water and the aluminum, and the exceptionally low quantity of water required to propagate the heat.

The greater thermal conductivity of aluminum compared to other materials commonly used for radiators makes for more rapid and uniform diffusion of heat. This effect is further enhanced by the presence of stainless steel water pipes encapsulated in the aluminum radiator casting, which ensures more uniform contact between the pipe surfaces and the body of the radiator. The narrow gauge of these pipes significantly reduces the quantity of water in circulation, consequently reducing the time taken by the boiler to heat it.

These features are extremely significant in that together they allow the radiator to heat up in half the time of a conventional radiator. This means that Phosphorus Imperfect radiators can change temperature extremely rapidly to adapt to the temperature requirements programmed for each moment or occasion and constantly assure the highest levels of comfort.

SIGNIFICANT ENERGY SAVINGS

For the same heat output, aluminum radiators developed with t-sculpt™ technology contain 80-95% less water than standard radiators. This feature alone greatly reduces the time needed to heat the water in the radiator, meaning far less work for the boiler. This also makes for more rapid transfer of heat between the radiator and the interior ambient. These two factors together lead to shorter boiler heating cycles, which in turn leads to lower energy consumption and costs.

The rapid heat-up rate also helps reduce consumption, especially in frequently changing winter sunlight conditions that influence interior temperatures, causing more frequent boiler heating cycles.

When no longer heated, the radiators cool slowly and continue to heat the ambient. The special differentiated-thickness design, along with the high specific heat of aluminum give the radiators a high thermal capacity, allowing them to retain heat for longer, further optimising energy consumption.

The overall energy savings with heating levels maintained constant over an arc of 24 hours amount to around 2-5%, but can reach up to 20% if heating levels are modified at various times during the day.

LOW-TEMPERATURE EFFICIENCY

In line with the recent developments in domestic heating technology, Phosphorus Imperfect radiators are particularly suitable to work in conjunction with modern low-temperature heating systems.

All of our thermosculptural radiators are specifically tested to operate at different Δt ranging from 30 to 50 °C, ensuring an optimal heat output and energy savings when coupled with condensing boilers, heat pumps and systems powered by renewable energy sources.

With a low thermal inertia, large surfaces on the front and back part of the radiator, and the capacity to exchange an high degree of energy both radiant and convective it is possible to achieve an high level of efficiency and flexibility in order to obtain the most convenient climate with the use of different water temperatures.

A further effect of reducing the temperature of the water entering the radiator to Δt 30° is to nearly halve the vertical temperature gradient (the stratification of temperature) in a room, ensuring a healthier environment thanks to the reduced air and dust circulation.

Phosphorus Imperfect radiators permit an efficient management of the heating system that increase comfort of living, while reducing consumption and pollutant atmospheric emissions.



HIGHER HEAT OUTPUT

For the same dimensions, radiators developed with t-sculpt™ technology give much better thermal performance than most designer radiators currently available on the market. The use of aluminum with its special thermal properties, coupled with special water pipes encapsulated in the casting and elements on the back of the radiator that contribute to increasing heat exchange, are just some of the design solutions applied to increase the heat output and efficiency of the radiators.

Such high performance means that for the same type and size of ambient to heat, smaller radiators can be installed, which are easier to fit even in limited, narrow spaces. Likewise, the same size of radiator can be used to heat a much larger room.

All the thermal performance data given in the catalogue has been calculated in accordance with European standard UNI EN 442.

THERMOSTATIC VALVE AS STANDARD

All t-sculpt™ thermosculptural radiator models are fitted with thermostatic regulator valves as standard. Proportional temperature regulation with narrow hysteresis bands allows for precise ambient temperature control and increased thermal comfort.

SILENT RUNNING

Radiator type heating systems can be noisy at times, which can be annoying especially in areas of the home designed for relaxation, like the bedrooms and living room.

Being specifically designed to function silently, t-sculpt™ thermosculptural radiators are highly appreciated for their uniqueness even from this point of view. The particular way they are built, with narrow stainless steel pipes encapsulated into the aluminum casting, significantly reduces the amount of water circulating in the radiator, and acoustically insulates the pipes themselves. This makes disappear or highly reduces annoying noises and gurgling due to cavitation of the water and air present in most conventional types of radiator.

ADAPTABILITY AND EASY INSTALLATION

As well as being beautiful and efficient, the new t-sculpt™ technology radiators are extremely easy to install and adapt to different heating system configurations, whether in new buildings or when refurbishing old buildings with existing installations.

Their design incorporates a series of special technical solutions that make installation and connection to the system far simpler.

FLEXO CONNECTION: THE VERSATILE PIPEWORK CONNECTION

Building on decades of experience in the production of aluminum moulds for customers throughout the world, and following a series of stringent tests, Phosphorus Imperfect chose to introduce the same, reliable pipework connection system on its own radiators.

To optimise and simplify connection, flexible metal mesh hoses on the back of the radiator are used rather than conventional water delivery and return points with fixed centre-centre distances.

This particular design solution that we call Flexo Connection offers total versatility of installation as well as guaranteeing an excellent seal. In this way the connections are also hidden from view on the back of the radiator, without visible valves, giving the overall installation aesthetically cleaner lines.

Rather than being constrained by fixed points for positioning the water delivery and return pipes, thanks to the flexible hoses, fitters have a larger area in which the heating system pipes can be freely positioned. Each model is provided with technical drawings indicating the area for connecting the pipes and the corresponding positions.

The system is also compatible with modern central fittings with fixed 50 mm centre-centre distances, which have now become the standard for numerous Countries.

The Flexo Connection system permits connection of the radiator either to wall-mounted (fig.1) or floor-mounted (fig.2) heating pipes.

When replacing old radiators, the Flexo Connection system is far more adaptable than conventional systems, reducing (or in some cases eliminating) the need to change the position of the pipes, which more often than not requires significant masonry work.

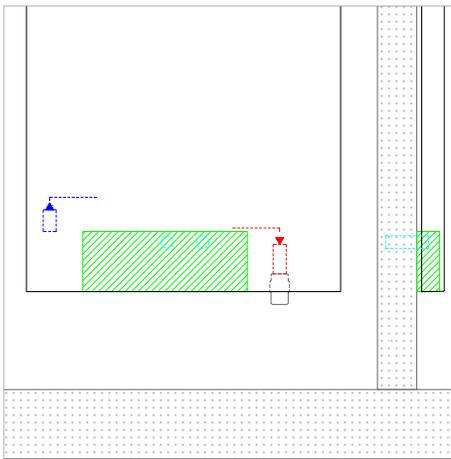


fig.1. Installation with wall-mounted pipes

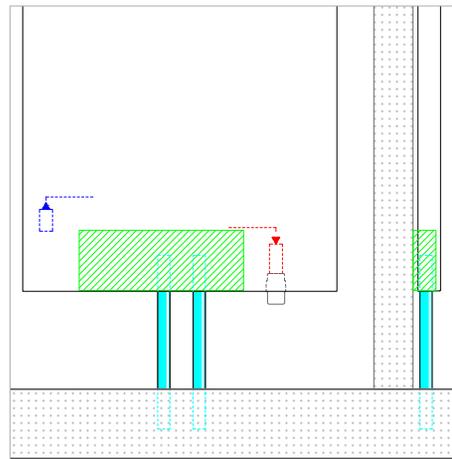


fig.2. Installation with floor-mounted pipes

To meet specific installation needs, on request Phosphorus Imperfect can supply radiators with connectors positioned differently to the standard catalogue positions.

HYDRAULIC PRESSURE RESISTANCE UP TO 20 BAR

t-sculpt™ technology encapsulates narrow gauge stainless steel pipes in the aluminum casting, which with suitable profiling become an integral part of the radiator body. This makes the pipes extremely resistant to external stresses and high working pressures.

Following on from pressure tests conducted at the Milan Polytechnic accredited laboratory in accordance with standard EN442, Phosphorus Imperfect subjected the water pipes to pressures of up to 50 bar without any leakage or deformation of the radiator body. However, for safety reasons the Company has decided to guarantee its products for working pressures up to 10 bar with standard valves and flexible hoses, and 20 bar with optional hydraulic components.

ROTOLOCK: THE SWIVEL MOUNTING SYSTEM

As well as being beautiful and efficient, t-sculpt™ thermosculptural radiators are easy to fit and remove for maintenance. The exclusive Rotolock mounting system consists of a bracket anchored to the upper part of the wall by 2 or 4 wall screws. The swivel mountings on the upper part of the radiator (fig.3) are then fitted onto the bracket with a movement from the top downwards. This makes it possible to tilt the radiator outward and support it with the prop on the back while arranging the delivery and return connections in the lower part. In this way the delivery and return pipes can be easily connected to the valve and lockshield on the radiator by means of the flexible metal mesh hoses supplied as standard. Then the radiator can be fixed in its final position by means of the screws and bushing to the rear (fig.4-5).

The Rotolock system is not available for the Voro model thermosculptural radiator.

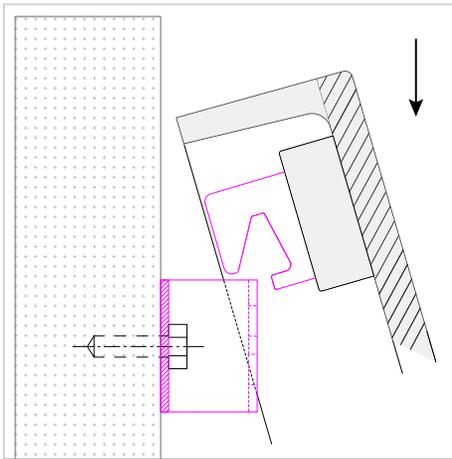


fig.3

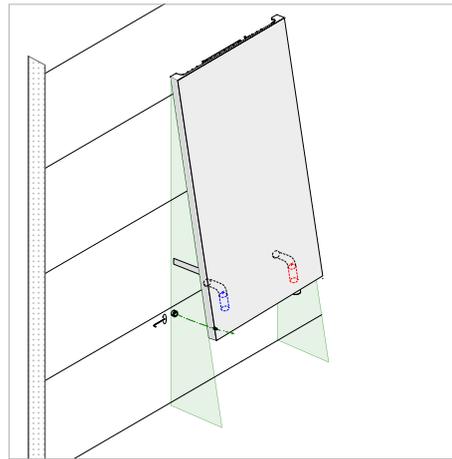


fig.4

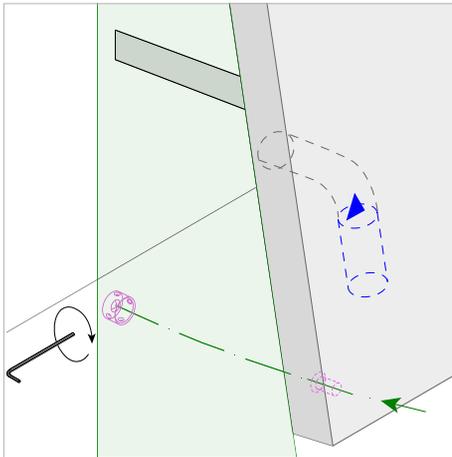


fig.5

HIDEAWAY HYDRAULIC KIT, SUPPLIED AS STANDARD

Phosphorus Imperfect thermosculptural radiators are supplied complete with all components necessary for their installation and operation. The standard hydraulic kit, included in the price, consists of the thermostatic radiator valve, the lockshield return valve and flexible connector hoses with M 3/8" thread for connecting the TRV and lockshield to the heating system, and naturally the air vent valve.

All these components, except for the thermostat, are hidden behind the radiator. This gives the final installation extremely clean lines, while making installation and maintenance easier.

The care taken in the design of the radiators shows through even in the air vent valve, positioned invisibly at the top and fitted with a little extractable plastic pipe that allows the radiator to be vented without soiling the wall behind.

CRAFTSMANSHIP ACCORDING TO HIGH-QUALITY STANDARDS

All Phosphorus Imperfect products are designed and made entirely in Italy at our four facilities, integrating multidisciplinary approach, craftsmen skills, and industrial quality for made to order productions.

From our studio in Trieste we handle the stages involving research and development, style, and engineering design, while experimentation and the entire production cycle is concentrated in the historic establishment in Rivignano, at our prototyping laboratories in Pordenone, and above all, in our modern foundry in Sedegliano.

HIGH QUALITY AND DURABILITY OF CONSTRUCTION MATERIALS: ALUMINUM FOR THE HEATING BODY, STAINLESS STEEL FOR PIPES, POLYESTER POWDER FOR PAINTING

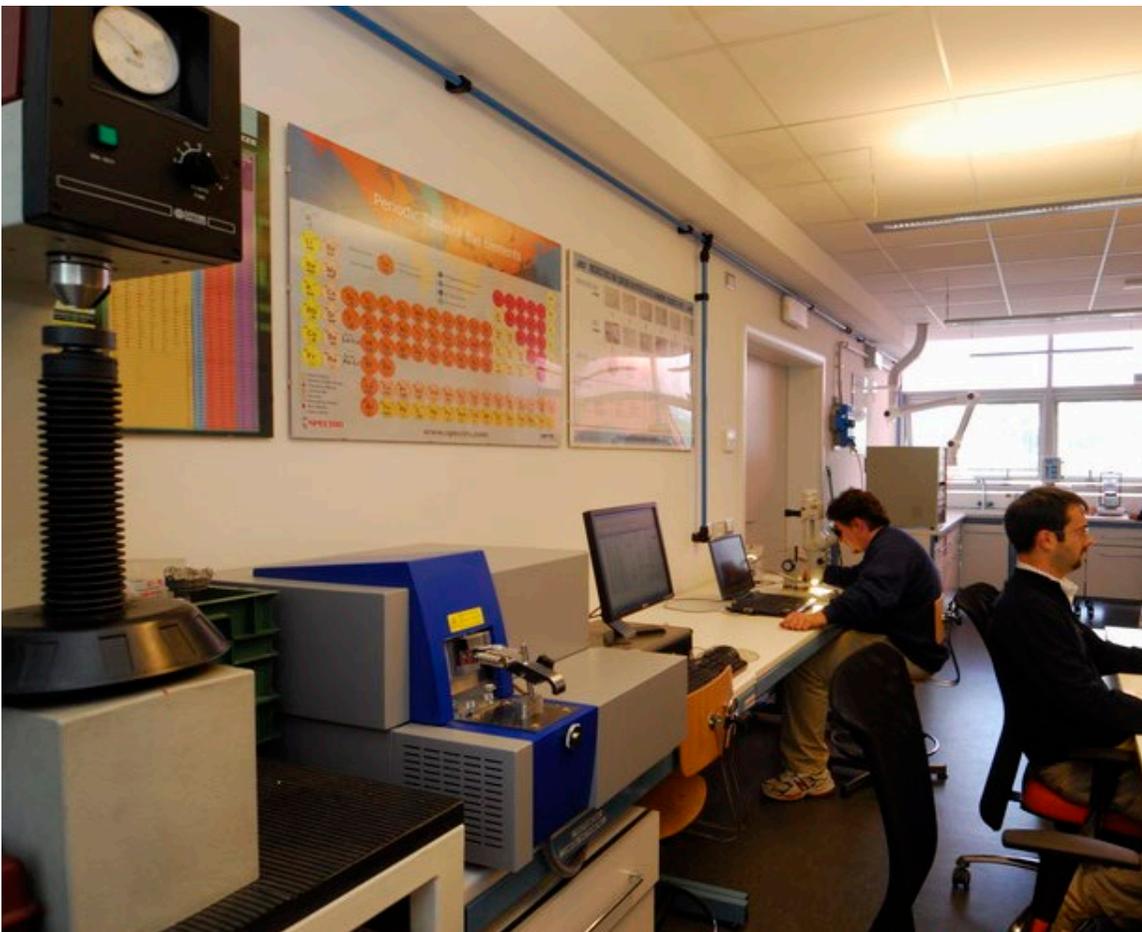
Phosphorus Imperfect chose the best materials to get top technical performance together with high durability and recyclability. The use of aluminum alloys allows for optimal distribution and maintenance of the temperature thanks to this metal's intrinsic physical characteristics: high heat conductivity and specific heat. Plus, aluminum is one of the materials with the highest resistance to oxidation; in fact, it is also widely used in nautical components, where the salinity of the air and water make other materials corrode and wear out rapidly.

Thanks to its stainless steel pipes, Phosphorus Imperfect's t-sculpt™ radiators last even longer. Because these pipes entirely rule out any type of corrosion due to or by effect of cavitation of the circulating water or to galvanic currents.

RAL, Pantone, and NCS paint jobs are always done with polyester powder, ensuring an outstanding final look and excellent mechanical properties and duration. The salt spray tests carried out for corrosion show a much higher resistance compared to the epoxy polyester paints that are normally used in the other products.

IMPECCABLE WATER TIGHTNESS AT HIGH PRESSURES

The stainless steel pipes encased in the aluminum casting become one with the aluminum heating body and therefore are extremely resistant to external strain and high running pressures. In the tests run on Phosphorus Imperfect products by the Polytechnic University of Milan's accredited laboratory at a pressure of 50 bar no water leaks, deformation, or collapse were encountered in the parts comprising the product, thus guaranteeing an exceptional strength and seal. Nevertheless as a precaution we decided to guarantee operation of the t-sculpt™ radiators with running pressures of: 10 bar if equipped with valves and flexible hoses provided as standard; and 20 bar with optional hydraulic components.



PRODUCT CERTIFICATION ACCORDING TO EN442 HARMONIZED STANDARDS

All of Phosphorus Imperfect's t-sculpt™ radiators are built in full compliance with the regulations currently in effect.

Certification is done in accordance with the European Construction Products Regulation 305/2011/EU (CPR) and with that set forth by the UNI EN 442-1:2015 and UNI EN 442-2:2015 harmonized standards on radiators. The safety and performance requirements to be met by the design and construction of the products are established in the standards. The main requirements include the heat output tests certified by bodies recognized by the European Union, manufacturing entirely free from hazardous substances (Directive 76/769/EC as amended), adequate product fire resistance (UNI EN 13501-1:2009), product life, and other requirements concerning resistance and stability under pressure.

The heat outputs given in the catalogue have been calculated considering the UNI EN 442-1 standards in effect.

UNI EN ISO9001:2015 QUALITY MANAGEMENT SYSTEM

Thanks to the quality of the materials and components, the high-technology systems employed in production, and rigorous quality control along the entire production cycle Phosphorus Imperfect products are synonymous with efficiency and reliability.

Our t-sculpt™ radiators are made using quality control systems compliant with the UNI EN ISO9001 international standards, thus guaranteeing constant quality and certified reliability.

To constantly verify compliance with our quality standards, each thermosculptural radiator undergoes meticulous checks on structure, hold under hydraulic pressure, and quality of manufacturing.

Quality Management Systems rationalize and optimize the organizational and production processes, constantly ensuring the required quality level.



ENVIRONMENTALLY FRIENDLY MATERIALS AND PRODUCTION PROCESSES

Phosphorus Imperfect thermosculptural radiators are more environmentally friendly throughout their lifecycle, not only because they're designed to be more efficient in terms of energy savings and last a long time, but also because the production processes and materials used reduce environmental impact.

The amount of energy required for the t-sculpt™ production process in fact is a lot lower than that used by other production technologies for similar products. What's more, 94% of the product is made out of aluminum, and the remaining 6% of stainless steel, so 100% of the product can be recycled.

LOW IMPACT PRODUCTION PROCESS AND A LOW LCA SCORE

Phosphorus Imperfect products have a much lower LCA score than other radiators.

LCA or 'Life Cycle Assessment' is a tool used to systematically evaluate the environmental impact of a notable variety of products, with the aim of improving the design of the same.

Many countries are attempting to standardise these kind of systems and include them in national legislation.

Phosphorus Imperfect uses the Ecoliser 2.0 system based on EI-99 database eco-indicators. The lower the LCA score, the less of a negative impact the product has on the environment. The LCA score of t-sculpt™ products is from two to four times lower than that of other radiators of the same weight manufactured using other production processes, such as ones made from extruded aluminum, cast iron or steel sheet panels.

PRODUCTS MADE OF AT LEAST 30% RECYCLED ALUMINUM

Our production process is characterised by the partial reutilization of aluminum alloys and the regeneration of casting equipment used in production. In fact, as much as 30 to 50% of the total product weight is made of swarf and scrap recovered and used again in our production process, as well as the material of the casting moulds is completely recovered at the end of each production.

To manufacture aluminum starting from scratch requires an energy consumption of approximately 13 kWh/kg; the production of recycled aluminum reduces this figure by 95% (Resource: CiAl Italian National Consortium of Recycling Aluminum).

100% RECYCLABLE AT THE END OF ITS LIFECYCLE

The product can be completely recycled by just separating the stainless steel tube from the aluminum part during the recycling process. This is easy to do, as the two materials melt at very different temperatures.

100% of aluminum can be recycled without it losing any of its original characteristics, which remain unchanged, even after it's been recycled many times, in other words when the primary aluminum becomes "recycled aluminum" or "secondary aluminum".



ISO14001 ENVIRONMENTAL MANAGEMENT SYSTEM STANDARD

Environmental certification was a further confirmation of results obtained in terms of quality and environmental protection in the collective interest.

Our products are manufactured in compliance with ISO14001 international environmental management system standards.

This type of standardisation helps companies minimise the environmental impact of their production processes. Certification is issued by an independent body; t-sculpt™ products are made by a manufacturing process certified by TÜV Italia.





Voro Thermosculptural Radiator,
finish Nut Brown painted
64x130x6cm

t-sculpt™ TECHNICAL PRICE LIST

TECHNICAL PRICE LIST INFORMATION

The models displayed and codified in this Technical Price List are available for the sizes and finishes indicated in the description of each item and in accordance with the General Conditions of Sale included within. All prices quoted in this Technical Price list are in Euros (€) and are exclusive of VAT and shipping costs.

FLAT PACK THERMOSCUPTURAL RADIATOR

A fine and original piece representing the formal possibilities we can achieve with our t-sculpt patented process. The mesmerizing pattern relief, obtained from the bubble wrap impression further enhanced by nice colour variations and a bare aluminum brushed bright frontal surface and edges, has a contemporary look fitting every room and design. The little elements that compose the pattern develop into a regular but ever changing surface with visual and tactile charm. The object perfectly integrates efficiency and formal appeal and can be a driving element of the interior project.

All of our products are the result of decades of perfect integration of technology, arts and artisan ability. Every thermosculptural radiator is designed and manufactured entirely in Italy using our t-sculpt™ patented process: a technology that lets the imagination run free to design and produce heated objects with an endless range of original shapes and superb finishes, while offering absolute comfort and top energy performance, ease of installation, quality materials and respect for the environment.

COLOURS AND FINISHES:

- Wide Range of RAL,NCS colours and innovative finishes
- Additional Standard Colours at No Extra Charge
- Custom from a Sample or Bespoke Colours and Finishes

FUNCTION PROPERTIES:

- Fast response time to heat up the room rapidly for a great comfort
- Significant energy savings thorough the fast response time and low water content
- Low-temperature efficient solution when coupled with condensing boilers and heat pumps
- High heat output ratio related to the overall radiator dimension
- Silent running
- Flexo Connection: a flexible pipework connection system for an easy and versatile installation
- Pipe connection inlet and outlet suitable either from the floor or the wall
- Rotolock: a swivel mounting system for an easy installation and maintenance
- Impeccable water tightness at high pressures
- Hideaway hydraulic kit, supplied as standard
- Thermostatic valve as standard for temperature fine tuning

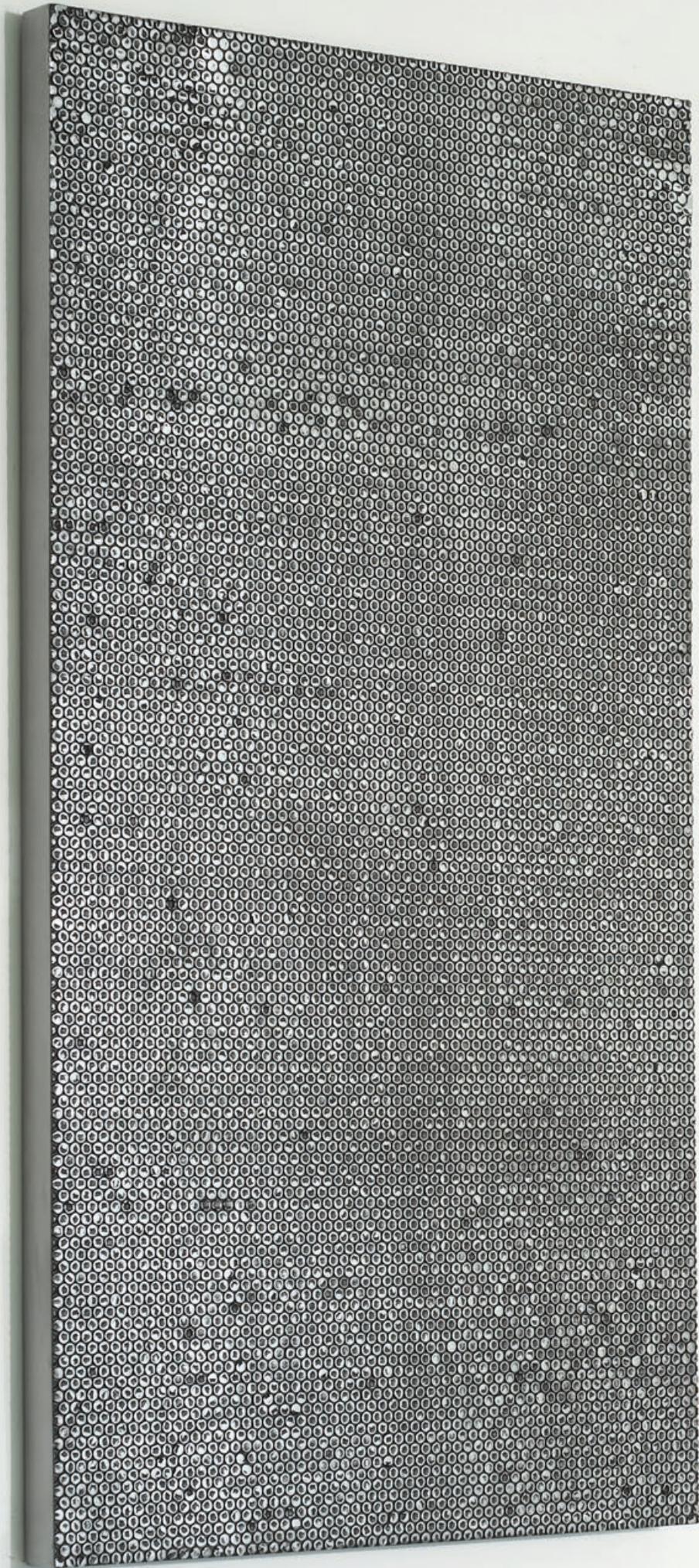
QUALITY MATERIALS:

- Heating body made in aluminum with very high thermal properties and corrosion resistance
- Water pipes made in stainless steel for very high corrosion resistance
- RAL and NCS paints made in polyester powder-coat to guarantee the highest aesthetic quality, mechanical strength and high resistance to scratch, corrosion and UV rays

ENVIRONMENTALLY FRIENDLY:

- Energy saving and long-lasting product
- Low impact production process with a low LCA score
- Made of at least 30% recycled aluminum and fully recyclable again at the end of its lifecycle

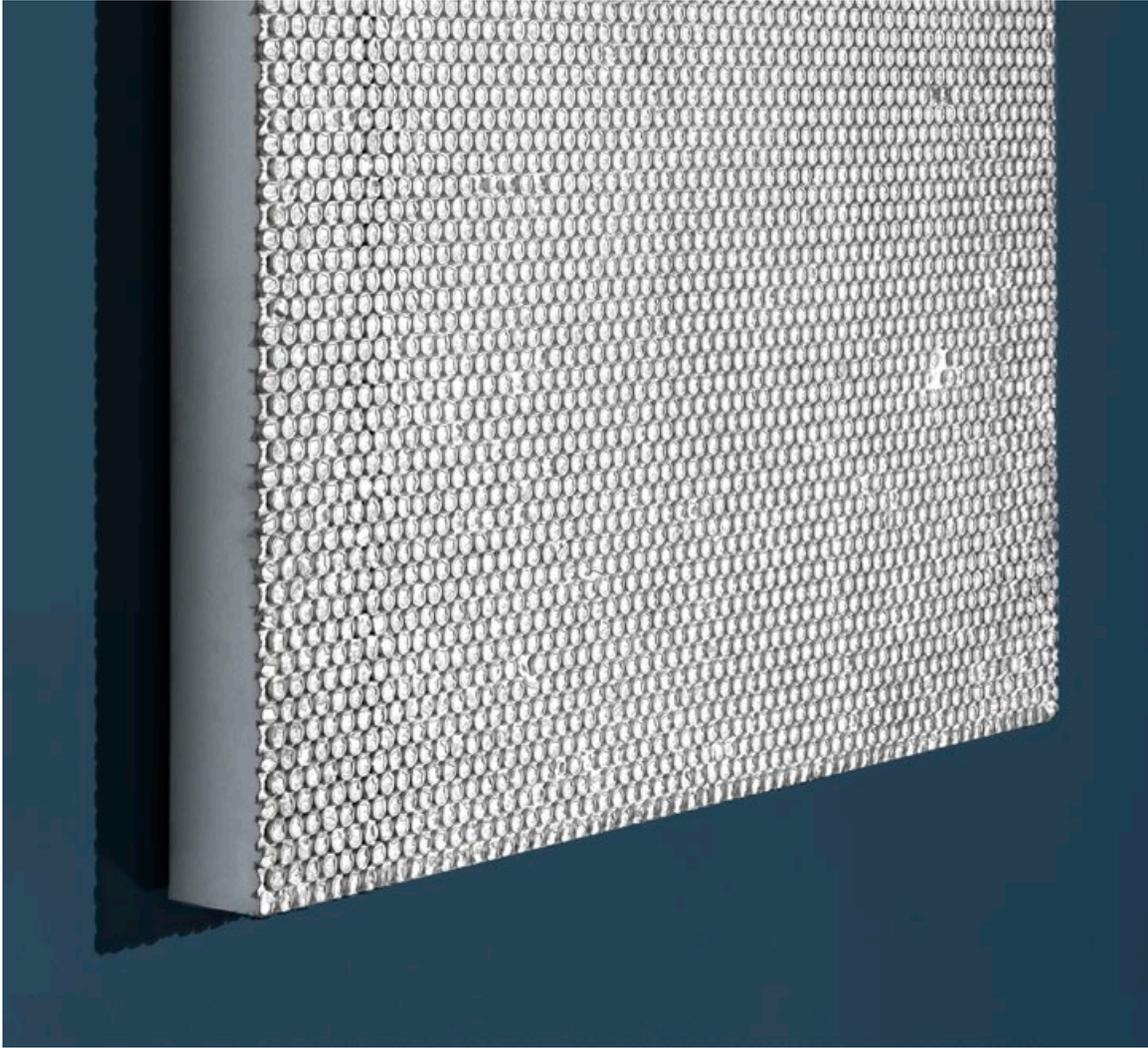
NEXT:
Flat Pack Thermosculptural Radiator,
finish Brushed Aluminum & Gray painted
64x125x6cm





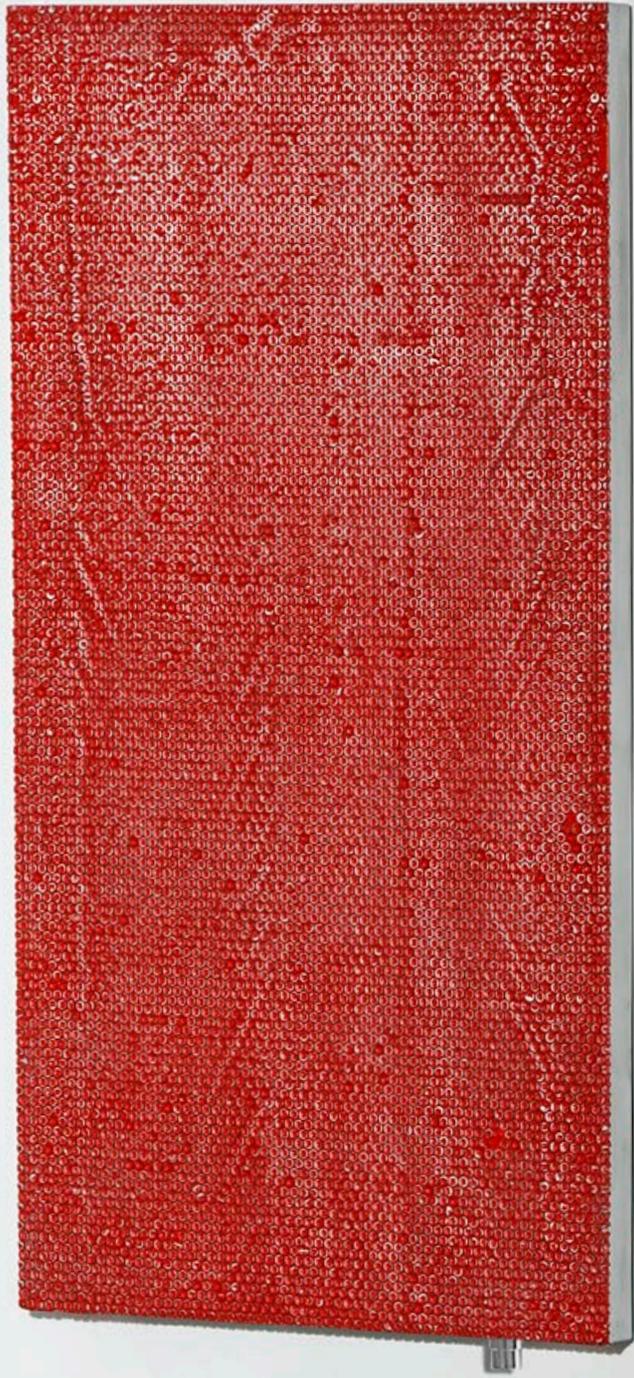
ABOVE AND NEXT:
Flat Pack Thermosculptural Radiator,
finish Brushed Aluminum & Gray painted
64x125x6cm





ABOVE:
Flat Pack Thermosculptural Radiator,
finish Brushed Aluminum & White painted
64x125x6cm
Detail

NEXT:
Flat Pack Thermosculptural Radiator,
finish Brushed Aluminum & Red painted
64x125x6cm



FLAT PACK THERMOSCULPTURAL HYDRONIC RADIATOR

TECHNICAL SPECIFICATIONS AND PRICES

Main Materials:

Thermosculptural radiator made in aluminum with encased stainless steel pipes manufactured by t sculpt™ patented process.

Hydraulic kit as standard:

Thermostatic valve with flexible metal mesh hose for water inlet M3/8"
 Lockshield return valve with flexible metal mesh hose for water outlet M3/8"
 Air vent valve

Use:

10 bar maximum water pressure admitted with standard hydraulic kit
 20 bar maximum water pressure admitted with optional hydraulic kit
 90 °C maximum water temperature admitted



Model name	Model code	Finish	Finish code	Width X [mm]	Height Y [mm]	Depth Z [mm]	Heat output ΔT50K [W]	Heat output ΔT30K [W]	Weight [Kg]	Water content [Lt]
FLAT PACK	RFLAPAC064125005.00	Brushed Aluminum & White RAL9010 painted	RAL9010	640	1250	60	1044	551	38	0,6
FLAT PACK	RFLAPAC064125005.00	Brushed Aluminum & Red RAL3020 painted	RAL3020	640	1250	60	1044	551	38	0,6
FLAT PACK	RFLAPAC064125005.00	Brushed Aluminum & Gray RAL7022 painted	RAL7022	640	1250	60	1044	551	38	0,6
FLAT PACK	RFLAPAC064168005.00	Brushed Aluminum & White RAL9010 painted	RAL9010	640	1680	60	1442	760	51	0,7
FLAT PACK	RFLAPAC064168005.00	Brushed Aluminum & Red RAL3020 painted	RAL3020	640	1680	60	1442	760	51	0,7
FLAT PACK	RFLAPAC064168005.00	Brushed Aluminum & Gray RAL7022 painted	RAL7022	640	1680	60	1442	760	51	0,7

OPTIONAL AVAILABLE FINISHES AND PRICES

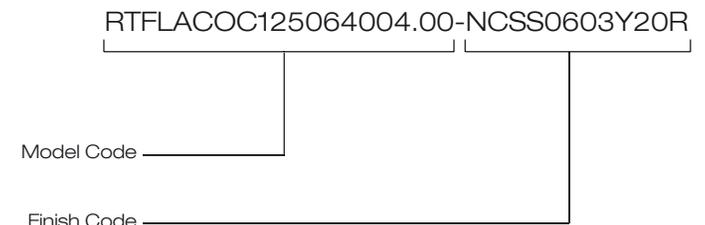
This model can be further personalized according to the following finishes chart. For further details please refer to the Finishes Catalogue. Upon request it is possible to produce colours from customer's sample or to design special bespoke finishes based on specific needs.

	RAL Paints	NCS Paints	PANTONE® Paints	PLUS Paints	NUDE ALUMINUM™							OXIDATION & PATINA		ALUMINUM TATTOO™	ENGRAVINGS, 3D RELIEFS AND IMPRESSIONS
					FLUID	MILL CIRCLE	FLEX	ORBITAL	SCOTCH	HUMM	MIRRA	FULL	CLOUD		
Available Finishes and % Surcharge Price	•	•	•	•	•	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	•	N.A.	N.A.	

HOW TO USE OUR CODES FOR A CORRECT ORDER

Phosphorus Imperfect uses a mnemonic code with intuitive terms to identify the product and the characteristics of the selected model. In order to fill correctly the order is important that the code of the article is the sum of the

Model Code plus the selected Finish Code which you can find on the above chart or on the Finishes Catalogue for all the other optional finishes. Please find here below an example:



FLAT PACK THERMOSCULPTURAL HYDRONIC RADIATOR TECHNICAL DRAWINGS

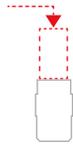
LEGENDA



Flexo Connection Area for pipe positioning



Possible pipe positioning suitable from the floor or the wall



Thermostatic valve with flexible hoses for water inlet M3/8"



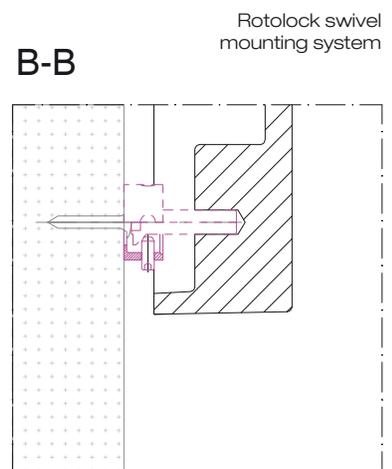
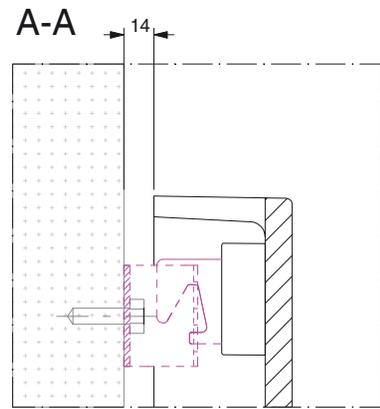
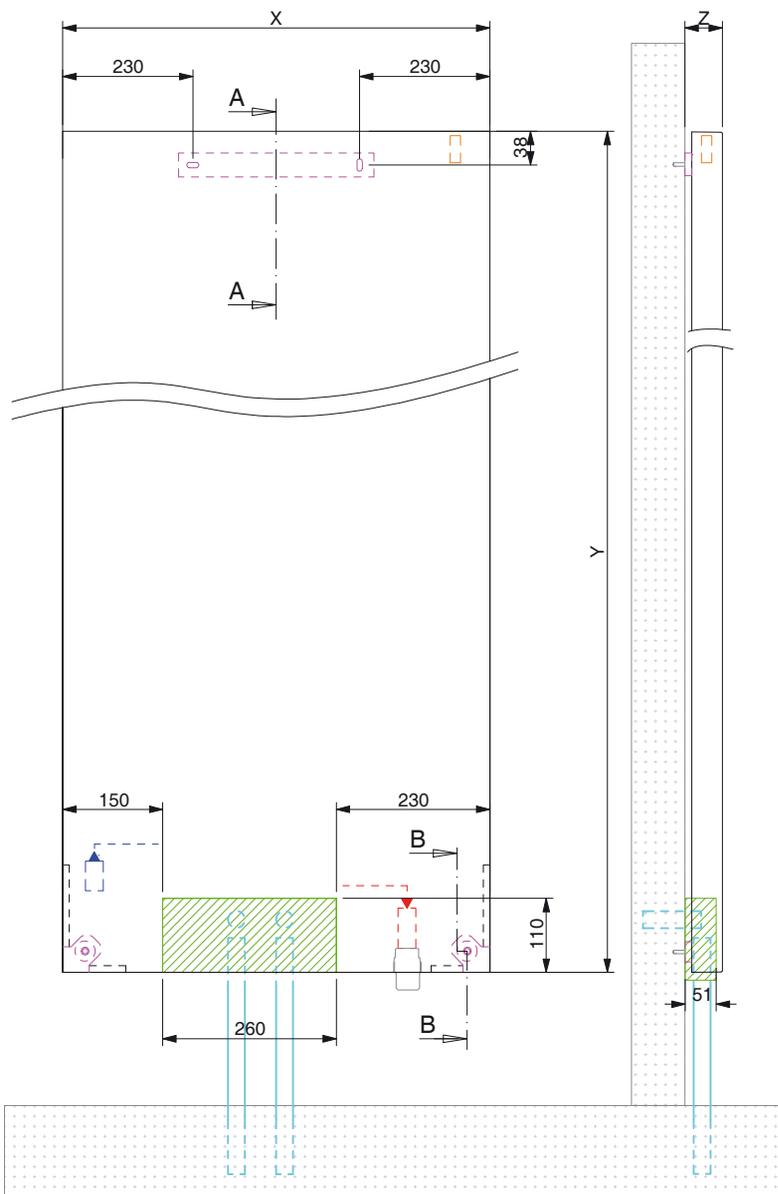
Lockshield return valve with flexible hoses for water outlet M3/8"



Rotolock swivel mounting system



Air vent valve



FLAT CONTOUR THERMOSCUPTURAL RADIATOR

This minimal flat shape paying homage to rationalism is defined by a subtle brushed bright contour edge, the simple yet assertive line with smooth beveled corners, elegantly underlines the formal rigor and designs a frame for the fine surface treatment made on aluminum. The matte finishes developed with original and refined monochromatic tones have as counterpart an hammered relief version which highlights the sculptural presence and subtle light reflections. The different versions can fit various locations and design needs for both high end residential and commercial applications.

All of our products are the result of decades of perfect integration of technology, arts and artisan ability. Every thermosculptural radiator is designed and manufactured entirely in Italy using our t-sculpt™ patented process: a technology that lets the imagination run free to design and produce heated objects with an endless range of original shapes and superb finishes, while offering absolute comfort and top energy performance, ease of installation, quality materials and respect for the environment.

COLOURS AND FINISHES:

- Wide Range of RAL,NCS colours and innovative finishes
- Additional Standard Colours at No Extra Charge
- Custom from a Sample or Bespoke Colours and Finishes

FUNCTION PROPERTIES:

- Fast response time to heat up the room rapidly for a great comfort
- Significant energy savings thorough the fast response time and low water content
- Low-temperature efficient solution when coupled with condensing boilers and heat pumps
- High heat output ratio related to the overall radiator dimension
- Silent running
- Flexo Connection: a flexible pipework connection system for an easy and versatile installation
- Pipe connection inlet and outlet suitable either from the floor or the wall
- Rotolock: a swivel mounting system for an easy installation and maintenance
- Impeccable water tightness at high pressures
- Hideaway hydraulic kit, supplied as standard
- Thermostatic valve as standard for temperature fine tuning

QUALITY MATERIALS:

- Heating body made in aluminum with very high thermal properties and corrosion resistance
- Water pipes made in stainless steel for very high corrosion resistance
- RAL and NCS paints made in polyester powder-coat to guarantee the highest aesthetic quality, mechanical strength and high resistance to scratch, corrosion and UV rays

ENVIRONMENTALLY FRIENDLY:

- Energy saving and long-lasting product
- Low impact production process with a low LCA score
- Made of at least 30% recycled aluminum and fully recyclable again at the end of its lifecycle

NEXT:
Flat Contour Thermosculptural Radiator,
finish Black painted with 45° brushed bevel
64x125x6cm





ABOVE AND NEXT:
Flat Contour Thermosculptural Radiator,
finish Black painted with 45° brushed bevel
64x125x6cm
Brushed Bevel Detail





ABOVE:
Flat Contour Thermosculptural Radiator, finish
Dusty Green painted with 45° brushed bevel
64x125x6cm

NEXT:
Flat Contour Thermosculptural Radiator, finish
Nut Brown painted with 45° brushed bevel
64x125x6cm





ABOVE AND NEXT:
Flat Contour Thermosculptural Radiator, finish
NUDE ALUMINUM™ Fluid with 45° brushed bevel
64x125x6cm





ABOVE AND NEXT:
Flat Contour Thermosculptural Radiator,
finish NUDE ALUMINUM™ Humm with 45°
brushed bevel
64x125x6cm



FLAT CONTOUR THERMOSCUPTURAL HYDRONIC RADIATOR

TECHNICAL SPECIFICATIONS AND PRICES

Main Materials:

Thermosculptural radiator made in aluminum with encased stainless steel pipes manufactured by t sculpt™ patented process.

Hydraulic kit as standard:

Thermostatic valve with flexible metal mesh hose for water inlet M3/8"
 Lockshield return valve with flexible metal mesh hose for water outlet M3/8"
 Air vent valve

Use:

10 bar maximum water pressure admitted with standard hydraulic kit
 20 bar maximum water pressure admitted with optional hydraulic kit
 90 °C maximum water temperature admitted



Model name	Model code	Finish	Finish code	Width X [mm]	Height Y [mm]	Depth Z [mm]	Heat output ΔT50K [W]	Heat output ΔT30K [W]	Weight [Kg]	Water content [Lt]
FLAT CONTOUR	RFLACON064125005.01	Nut Brown RAL8011 painted	RAL8011	640	1250	60	958	505	36	0,6
FLAT CONTOUR	RFLACON064125005.01	Black RAL9005 painted	RAL9005	640	1250	60	958	505	36	0,6
FLAT CONTOUR	RFLACON064125005.01	Dusty Green NCSS4020B90G painted	NCSS4020B90G	640	1250	60	958	505	36	0,6
FLAT CONTOUR	RFLACON064168005.01	Nut Brown RAL8011 painted	RAL8011	640	1680	60	1313	692	48	0,7
FLAT CONTOUR	RFLACON064168005.01	Black RAL9005 painted	RAL9005	640	1680	60	1313	692	48	0,7
FLAT CONTOUR	RFLACON064168005.01	Dusty Green NCSS4020B90G painted	NCSS4020B90G	640	1680	60	1313	692	48	0,7

OPTIONAL AVAILABLE FINISHES AND PRICES

This model can be further personalized according to the following finishes chart. For further details please refer to the Finishes Catalogue. Upon request it is possible to produce colours from customer's sample or to design special bespoke finishes based on specific needs.

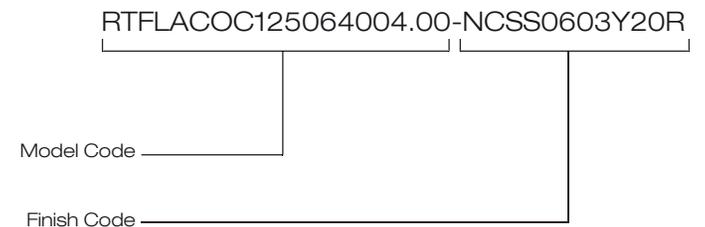
	RAL Paints	NCS Paints	PANTONE® Paints	PLUS Paints	NUDE ALUMINUM™							OXIDATION & PATINA		ALUMINUM TATTOO™	ENGRAVINGS, 3D RELIEFS AND IMPRESSIONS
					FLUID	MILL CIRCLE	FLEX	ORBITAL	SCOTCH	HUMM	MIRRA	FULL	CLOUD		
Available Finishes and % Surcharge Price	N.A.	.	.	.	.	.	.	.	.	.

Please, consider that with MIRRA finish the heat output is reduced of 25%

HOW TO USE OUR CODES FOR A CORRECT ORDER

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Model Code plus the selected Finish Code which you can find on the above chart or on the Finishes Catalogue for all the other optional finishes. Please find here below an example:



FLAT CONTOUR THERMOSCULPTURAL HYDRONIC RADIATOR TECHNICAL DRAWINGS

LEGENDA



Flexo Connection Area for pipe positioning



Possible pipe positioning suitable from the floor or the wall



Thermostatic valve with flexible hoses for water inlet M3/8"



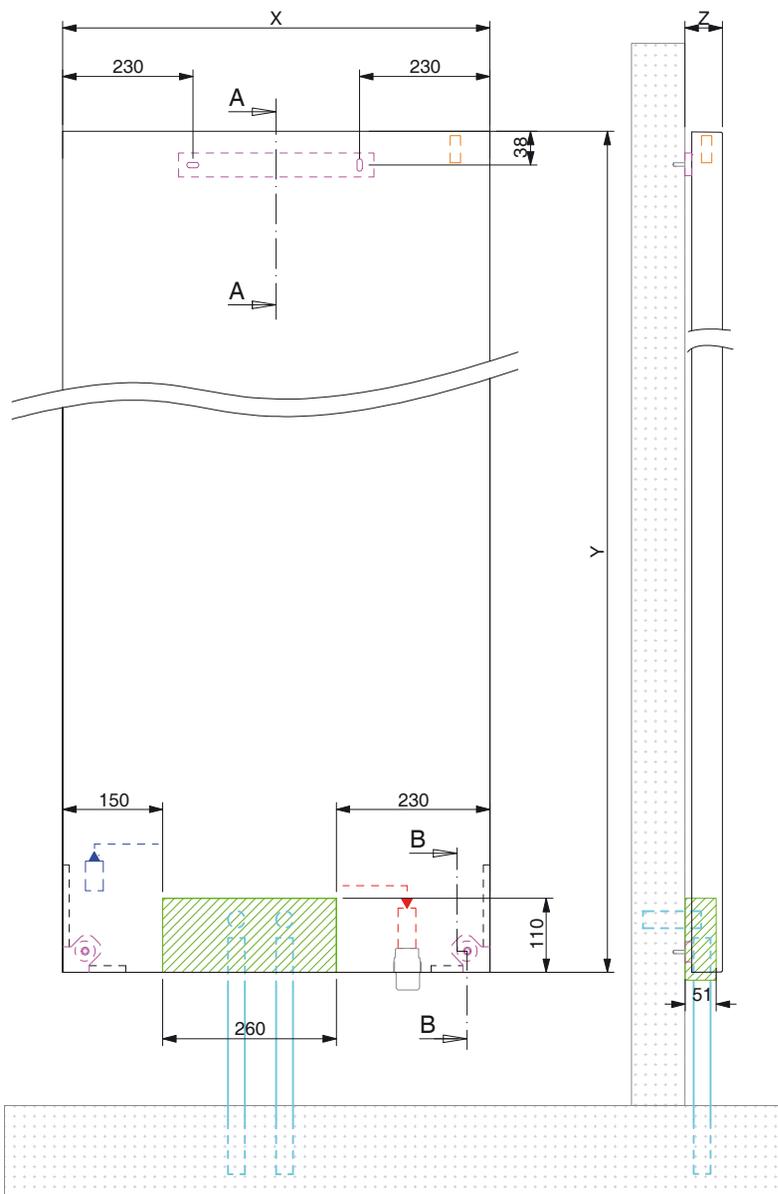
Lockshield return valve with flexible hoses for water outlet M3/8"



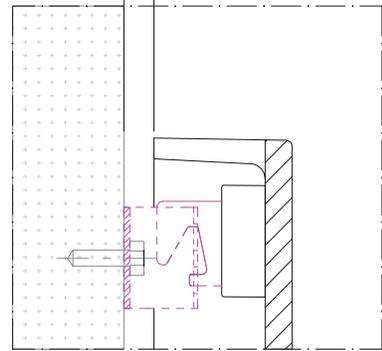
Rotolock swivel mounting system



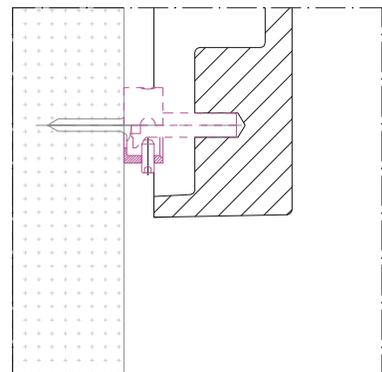
Air vent valve



A-A



B-B



Rotolock swivel mounting system

FLAT COCKTAIL THERMOSCUPTURAL RADIATOR

Flat cocktail is developed with attention to bare metal finishes. The simple flat rectangular aluminum shape is divided into different areas that bring the natural material surface to evidence and characterize the object with a varying degree and direction of roughness and reflectivity, reminding to some extent the experiments of optical art.

This object can be coated in a range of coloured translucent paintings to chromatically change the subtle tone variations of the metal.

The balanced character of this object can give a new image to every place where it will be installed be it traditional or contemporary.

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COLOURS AND FINISHES:

- Wide Range of RAL,NCS colours and innovative finishes
- Additional Standard Colours at No Extra Charge
- Custom from a Sample or Bespoke Colours and Finishes

FUNCTION PROPERTIES:

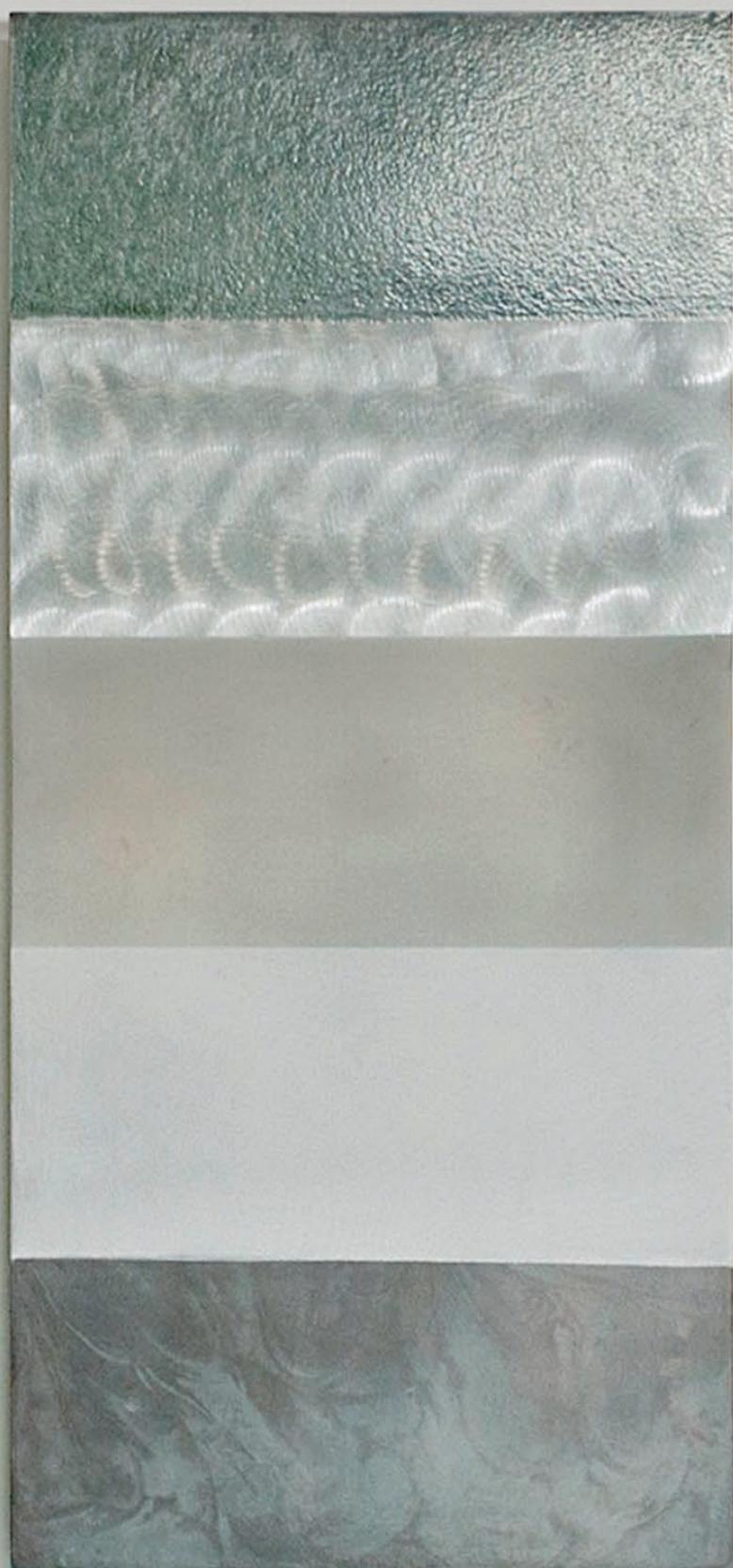
- Fast response time to heat up the room rapidly for a great comfort
- Significant energy savings thorough the fast response time and low water content
- Low-temperature efficient solution when coupled with condensing boilers and heat pumps
- High heat output ratio related to the overall radiator dimension
- Silent running
- Flexo Connection: a flexible pipework connection system for an easy and versatile installation
- Pipe connection inlet and outlet suitable either from the floor or the wall
- Rotolock: a swivel mounting system for an easy installation and maintenance
- Impeccable water tightness at high pressures
- Hideaway hydraulic kit, supplied as standard
- Thermostatic valve as standard for temperature fine tuning

QUALITY MATERIALS:

- Heating body made in aluminum with very high thermal proprieties and corrosion resistance
- Water pipes made in stainless steel for very high corrosion resistance
- RAL and NCS paints made in polyester powder-coat to guarantee the highest aesthetic quality, mechanical strength and high resistance to scratch, corrosion and UV rays

ENVIRONMENTALLY FRIENDLY:

- Energy saving and long-lasting product
- Low impact production process with a low LCA score
- Made of at least 30% recycled aluminum and fully recyclable again at the end of its lifecycle





ABOVE AND NEXT:
Flat Cocktail Thermosculptural Radiator,
finish NUDE ALUMINUM™
64x125x6cm





ABOVE:
Flat Cocktail Thermosculptural Radiator,
finish Translucent Blue painted
64x125x6cm

NEXT:
Flat Cocktail Thermosculptural Radiator,
finish Translucent Grey painted
64x125x6cm



FLAT COCKTAIL THERMOSCUPTURAL HYDRONIC RADIATOR

TECHNICAL SPECIFICATIONS AND PRICES

Main Materials:

Thermosculptural radiator made in aluminum with encased stainless steel pipes manufactured by t sculpt™ patented process.

Hydraulic kit as standard:

Thermostatic valve with flexible metal mesh hose for water inlet M3/8"

Lockshield return valve with flexible metal mesh hose for water outlet M3/8"

Air vent valve

Use:

10 bar maximum water pressure admitted with standard hydraulic kit

20 bar maximum water pressure admitted with optional hydraulic kit

90 °C maximum water temperature admitted



Model name	Model code	Finish	Finish code	Width X [mm]	Height Y [mm]	Depth Z [mm]	Heat output ΔT50K [W]	Heat output ΔT30K [W]	Weight [Kg]	Water content [Lt]
FLAT COCKTAIL	RFLACOC064125005.00	NUDE ALUMINUM™	ALNCOCK01	640	1250	60	880	464	36	0,6
FLAT COCKTAIL	RFLACOC064125005.00	Translucent Grey painted	TGREY	640	1250	60	880	464	36	0,6
FLAT COCKTAIL	RFLACOC064125005.00	Translucent Blue painted	TLBLUE	640	1250	60	880	464	36	0,6
FLAT COCKTAIL	RFLACOC064168005.00	NUDE ALUMINUM™	ALNCOCK01	640	1680	60	1210	638	48	0,7
FLAT COCKTAIL	RFLACOC064168005.00	Translucent Grey painted	TGREY	640	1680	60	1210	638	48	0,7
FLAT COCKTAIL	RFLACOC064168005.00	Translucent Blue painted	TLBLUE	640	1680	60	1210	638	48	0,7

OPTIONAL AVAILABLE FINISHES AND PRICES

This model can be further personalized according to the following finishes chart. For further details please refer to the Finishes Catalogue.

Upon request it is possible to produce colours from customer's sample or to design special bespoke finishes based on specific needs.

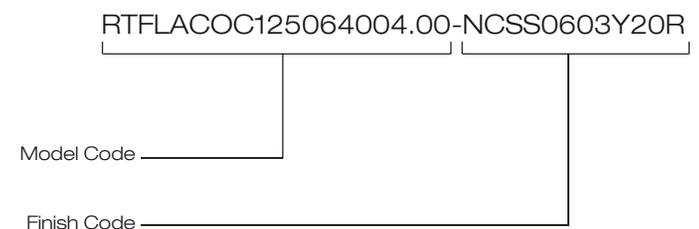
	RAL Paints	NCS Paints	PANTONE® Paints	PLUS Paints	NUDE ALUMINUM™							OXIDATION & PATINA		ALUMINUM TATTOO™	ENGRAVINGS, 3D RELIEFS AND IMPRESSIONS
					FLUID	MILL CIRCLE	FLEX	ORBITAL	SCOTCH	HUMM	MIRRA	FULL	CLOUD		
Available Finishes and % Surcharge Price	N.A.	N.A.	N.A.	N.A.	•							•		•	•

Please, consider that with MIRRA finish the heat output is reduced of 25%

HOW TO USE OUR CODES FOR A CORRECT ORDER

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Model Code plus the selected Finish Code which you can find on the above chart or on the Finishes Catalogue for all the other optional finishes. Please find here below an example:



FLAT COCKTAIL THERMOSCULPTURAL HYDRONIC RADIATOR TECHNICAL DRAWINGS

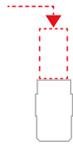
LEGENDA



Flexo Connection Area for pipe positioning



Possible pipe positioning suitable from the floor or the wall



Thermostatic valve with flexible hoses for water inlet M3/8"



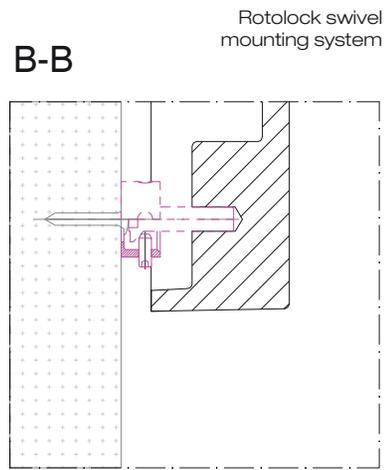
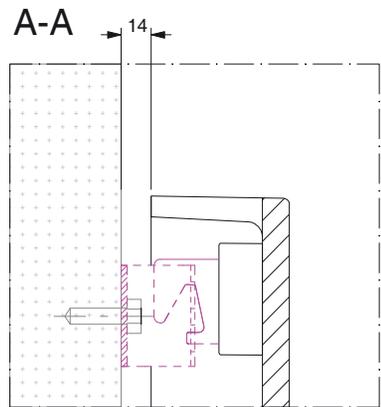
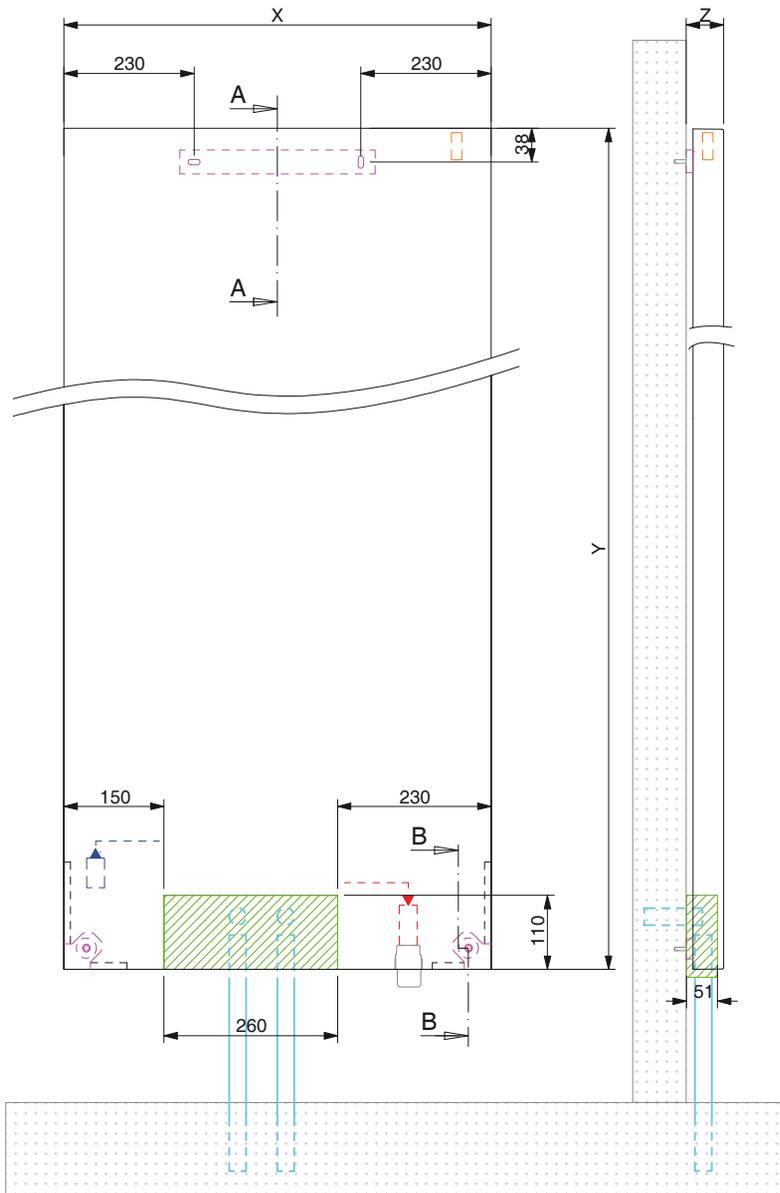
Lockshield return valve with flexible hoses for water outlet M3/8"



Rotolock swivel mounting system



Air vent valve



VORO THERMOSCUPTURAL RADIATOR

This object mixes 3D digital modelling techniques with the sculptural presence of casted aluminum. A mathematical structure becomes a slim original thermosculptural radiator realised in a fine set of finishes. The Voronoi diagram used to define the pattern reveals a set of continuously different cells divided by smooth lines carefully engraved into aluminum, proliferating around a shiny polished element. The smoothness of design reflects to the whole body of the object with curved lines defining perimeter and depth. The shape is built by maths but wears the colours of nature, with soft shades making a joyous meeting of abstract and concrete that will not go unnoticed in any setting.

All of our products are the result of decades of perfect integration of technology, arts and artisan ability. Every thermosculptural radiator is designed and manufactured entirely in Italy using our t-sculpt™ patented process: a technology that lets the imagination run free to design and produce heated objects with an endless range of original shapes and superb finishes, while offering absolute comfort and top energy performance, ease of installation, quality materials and respect for the environment.

COLOURS AND FINISHES:

- Wide Range of RAL,NCS colours and innovative finishes
- Additional Standard Colours at No Extra Charge
- Custom from a Sample or Bespoke Colours and Finishes

FUNCTION PROPERTIES:

- Fast response time to heat up the room rapidly for a great comfort
- Significant energy savings thorough the fast response time and low water content
- Low-temperature efficient solution when coupled with condensing boilers and heat pumps
- High heat output ratio related to the overall radiator dimension
- Silent running
- Flexo Connection: a flexible pipework connection system for an easy and versatile installation
- Pipe connection inlet and outlet suitable either from the floor or the wall
- Impeccable water tightness at high pressures
- Hideaway hydraulic kit, supplied as standard
- Thermostatic valve as standard for temperature fine tuning

QUALITY MATERIALS:

- Heating body made in aluminum with very high thermal properties and corrosion resistance
- Water pipes made in stainless steel for very high corrosion resistance
- RAL and NCS paints made in polyester powder-coat to guarantee the highest aesthetic quality, mechanical strength and high resistance to scratch, corrosion and UV rays

ENVIRONMENTALLY FRIENDLY:

- Energy saving and long-lasting product
- Low impact production process with a low LCA score
- Made of at least 30% recycled aluminum and fully recyclable again at the end of its lifecycle

NEXT:
Voro Thermosculptural Radiator,
finish Sand Quartz painted
64x130x6cm





ABOVE AND NEXT:
Voro Thermosculptural Radiator,
finish Sand Quartz painted
64x130x6cm





ABOVE:
Voro Thermosculptural Radiator,
finish Nut Brown painted
64x130x6cm

NEXT:
Voro Thermosculptural Radiator,
finish White painted
64x130x6cm



VORO THERMOSCULPTURAL HYDRONIC RADIATOR

TECHNICAL SPECIFICATIONS AND PRICES

Main Materials:

Thermosculptural radiator made in aluminum with encased stainless steel pipes manufactured by t sculpt™ patented process.

Hydraulic kit as standard:

Thermostatic valve with flexible metal mesh hose for water inlet M3/8"

Lockshield return valve with flexible metal mesh hose for water outlet M3/8"

Air vent valve

Use:

10 bar maximum water pressure admitted with standard hydraulic kit

20 bar maximum water pressure admitted with optional hydraulic kit

90 °C maximum water temperature admitted



Model name	Model code	Finish	Finish code	Width X [mm]	Height Y [mm]	Depth Z [mm]	Heat output ΔT50K [W]	Heat output ΔT30K [W]	Weight [Kg]	Water content [Lt]
VORO	RVORONO064130006.01	White RAL9010 painted	RAL9010	640	1300	58	1010	533	38	0,6
VORO	RVORONO064130006.01	Sand Quartz painted	VPLUS07	640	1300	58	1010	533	38	0,6
VORO	RVORONO064130006.01	Blue NCSS5540R90B painted	NCSS5540R90B	640	1300	58	1010	533	38	0,6
VORO	RVORONO064130006.01	Nut Brown RAL8011 painted	RAL8011	640	1300	58	1010	533	38	0,6

OPTIONAL AVAILABLE FINISHES AND PRICES

This model can be further personalized according to the following finishes chart. For further details please refer to the Finishes Catalogue.

Upon request it is possible to produce colours from customer's sample or to design special bespoke finishes based on specific needs.

	RAL Paints	NCS Paints	PANTONE® Paints	PLUS Paints	NUDE ALUMINUM™							OXIDATION & PATINA		ALUMINUM TATTOO™	ENGRAVINGS, 3D RELIEFS AND IMPRESSIONS
					FLUID	MILL CIRCLE	FLEX	ORBITAL	SCOTCH	HUMM	MIRRA	FULL	CLOUD		
Available Finishes and % Surcharge Price	•	•	•	•	•	N.A.	•	•	•	•	•	•	•	•	•

Please, consider that with MIRRA finish the heat output is reduced of 25%

HOW TO USE OUR CODES FOR A CORRECT ORDER

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Model Code plus the selected Finish Code which you can find on the above chart or on the Finishes Catalogue for all the other optional finishes. Please find here below an example:

RTFLACOC125064004.00-NCSS0603Y20R

Model Code _____

Finish Code _____

VORO THERMOSCULPTURAL HYDRONIC RADIATOR TECHNICAL DRAWINGS

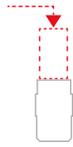
LEGENDA



Flexo Connection Area for pipe positioning



Possible pipe positioning suitable from the floor or the wall



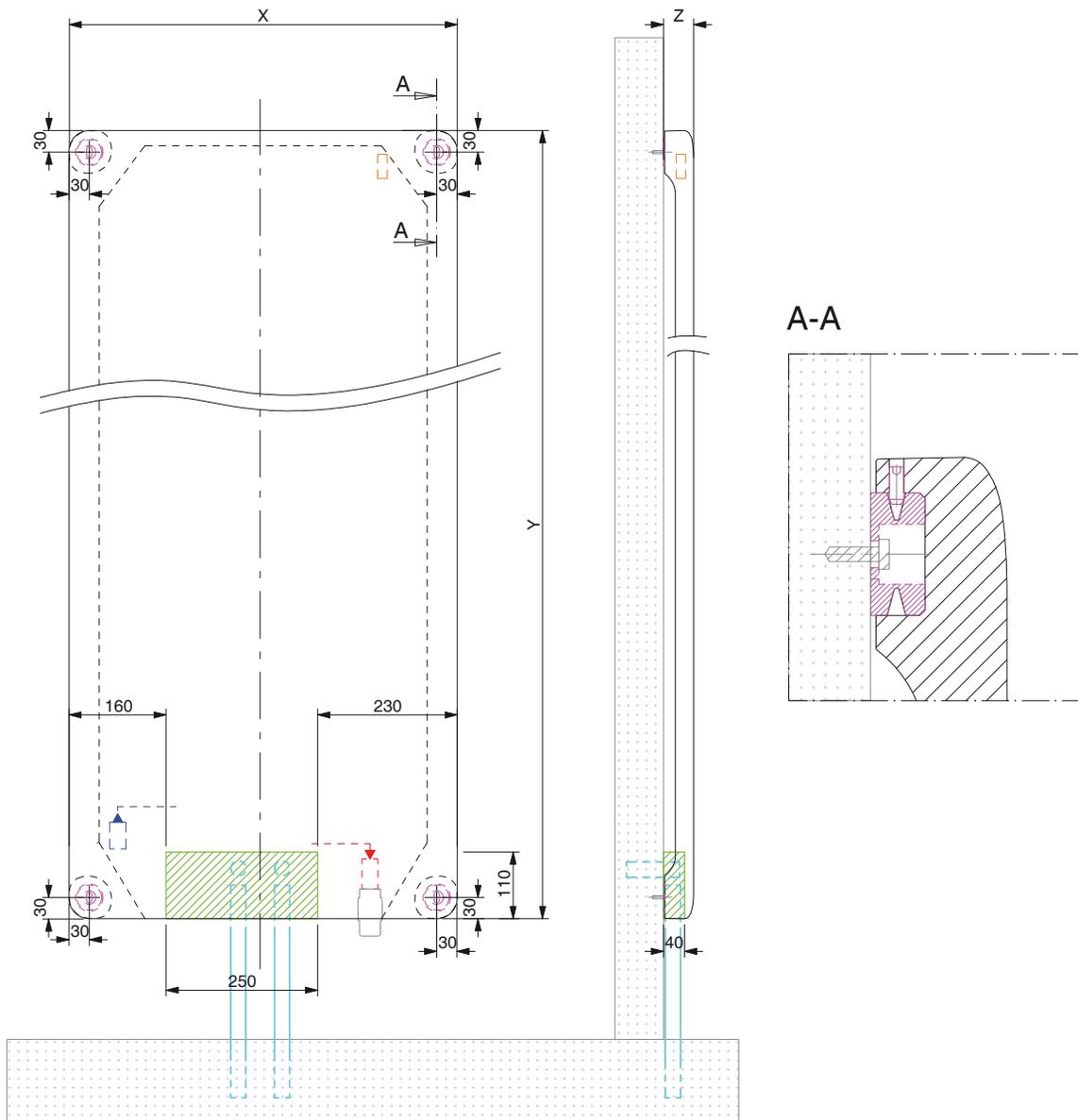
Thermostatic valve with flexible hoses for water inlet M3/8"



Lockshield return valve with flexible hoses for water outlet M3/8"



Air vent valve



KULATTO THERMOSCUPTURAL RADIATOR AND TOWEL WARMER

Kulatto is composed with neat geometrical forms that overlap almost freely to create an open shape that rhythmically evolves around a polished aluminum detail. Like in early abstract paintings it uses pure and intense colours.

This is a simple and yet sophisticated object that will perfectly integrate into a classical setting or a modernist or contemporary design. Beside its function as a room heater you can use Kulatto as a front entrance hanger to keep your coat warm or as a towel warmer in the bathroom.

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COLOURS AND FINISHES:

- Wide Range of RAL, NCS colours and innovative finishes
- Additional Standard Colours at No Extra Charge
- Custom from a Sample or Bespoke Colours and Finishes

FUNCTION PROPERTIES:

- Fast response time to heat up the room rapidly for a great comfort
- Significant energy savings through the fast response time and low water content
- Low-temperature efficient solution when coupled with condensing boilers and heat pumps
- High heat output ratio related to the overall radiator dimension
- Silent running
- Flexo Connection: a flexible pipework connection system for an easy and versatile installation
- Pipe connection inlet and outlet suitable either from the floor or the wall
- Rotolock: a swivel mounting system for an easy installation and maintenance
- Impeccable water tightness at high pressures
- Hideaway hydraulic kit, supplied as standard
- Thermostatic valve as standard for temperature fine tuning

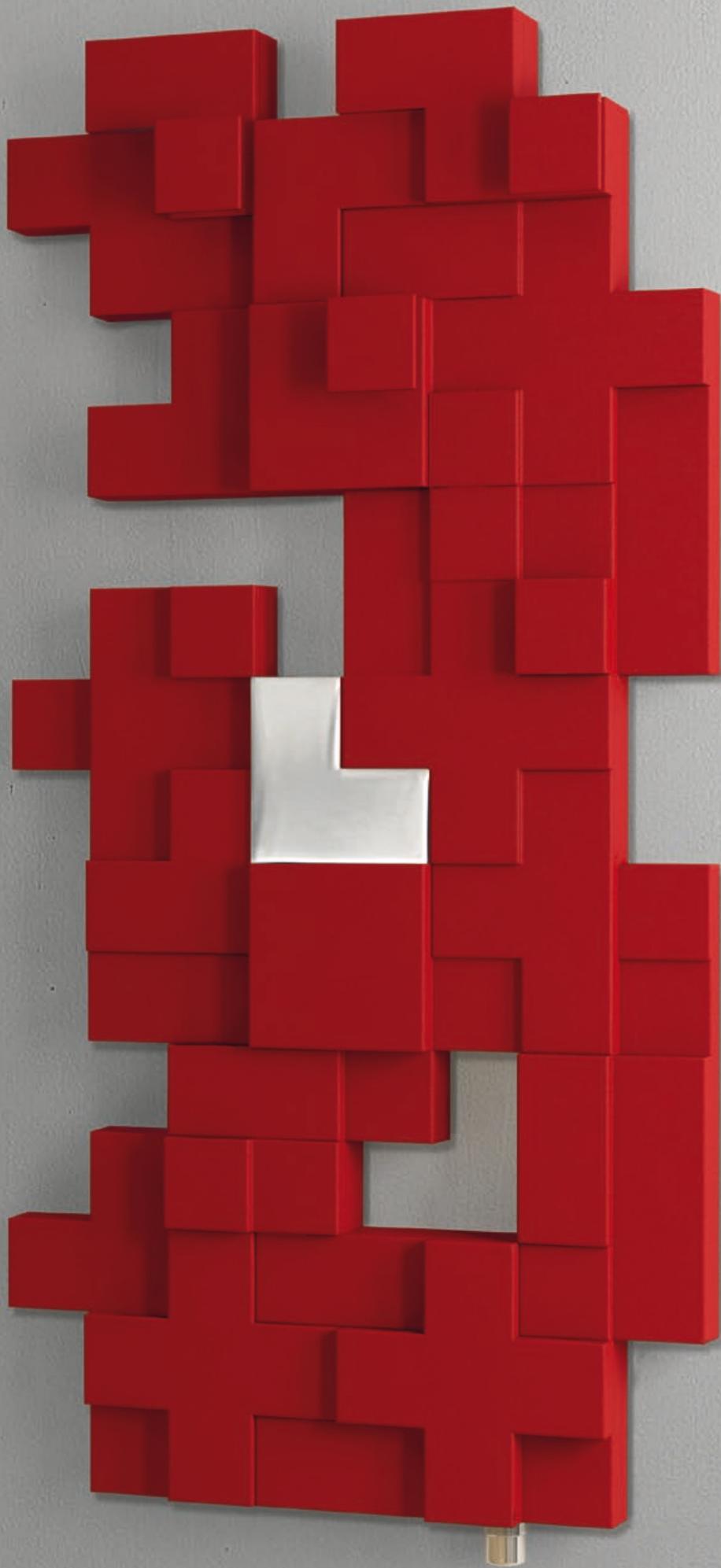
QUALITY MATERIALS:

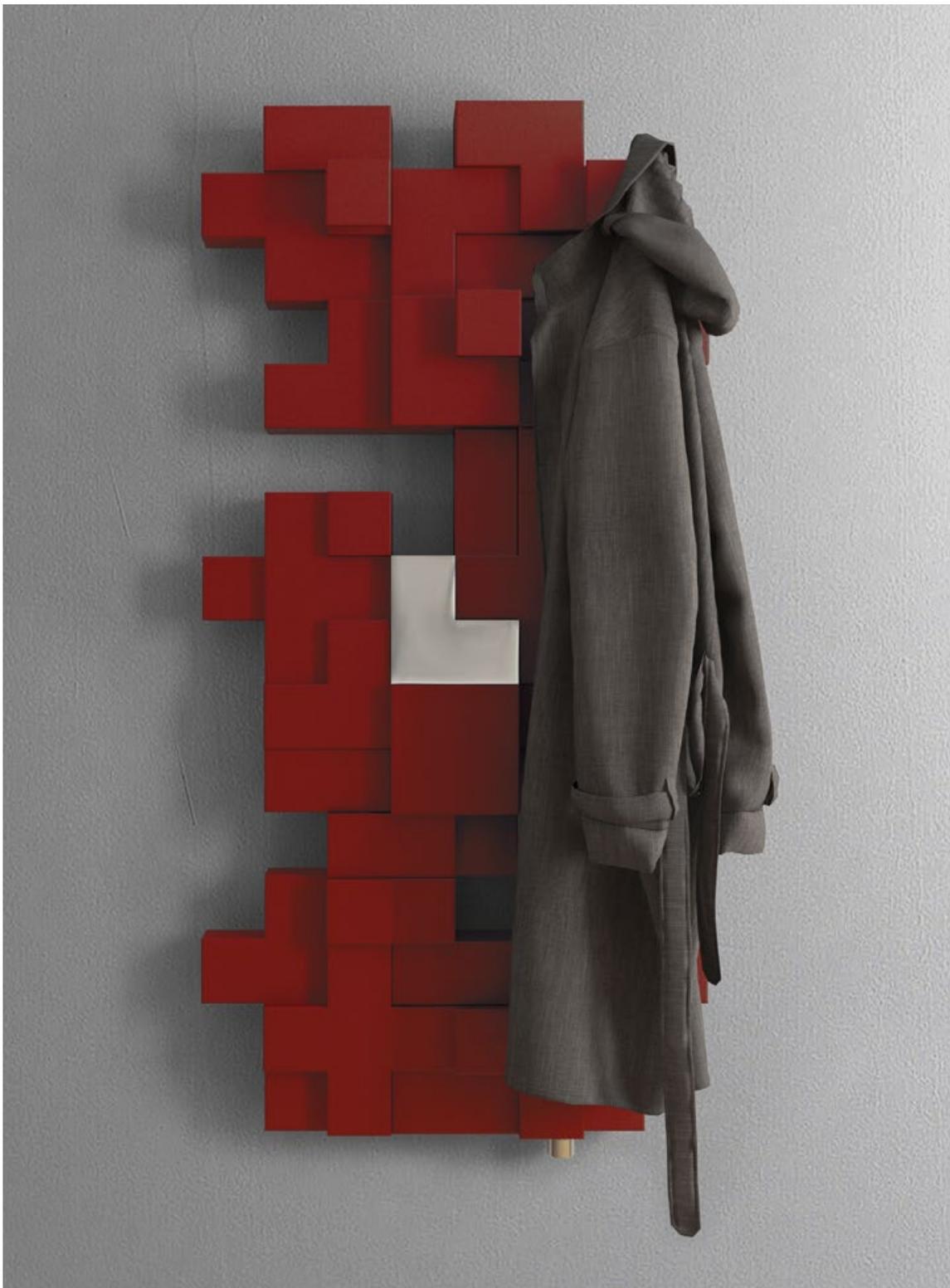
- Heating body made in aluminum with very high thermal properties and corrosion resistance
- Water pipes made in stainless steel for very high corrosion resistance
- RAL and NCS paints made in polyester powder-coat to guarantee the highest aesthetic quality, mechanical strength and high resistance to scratch, corrosion and UV rays

ENVIRONMENTALLY FRIENDLY:

- Energy saving and long-lasting product
- Low impact production process with a low LCA score
- Made of at least 30% recycled aluminum and fully recyclable again at the end of its lifecycle

NEXT:
Kulatto Thermosculptural Radiator and
Towel Warmer, finish Red painted
64x128x11cm





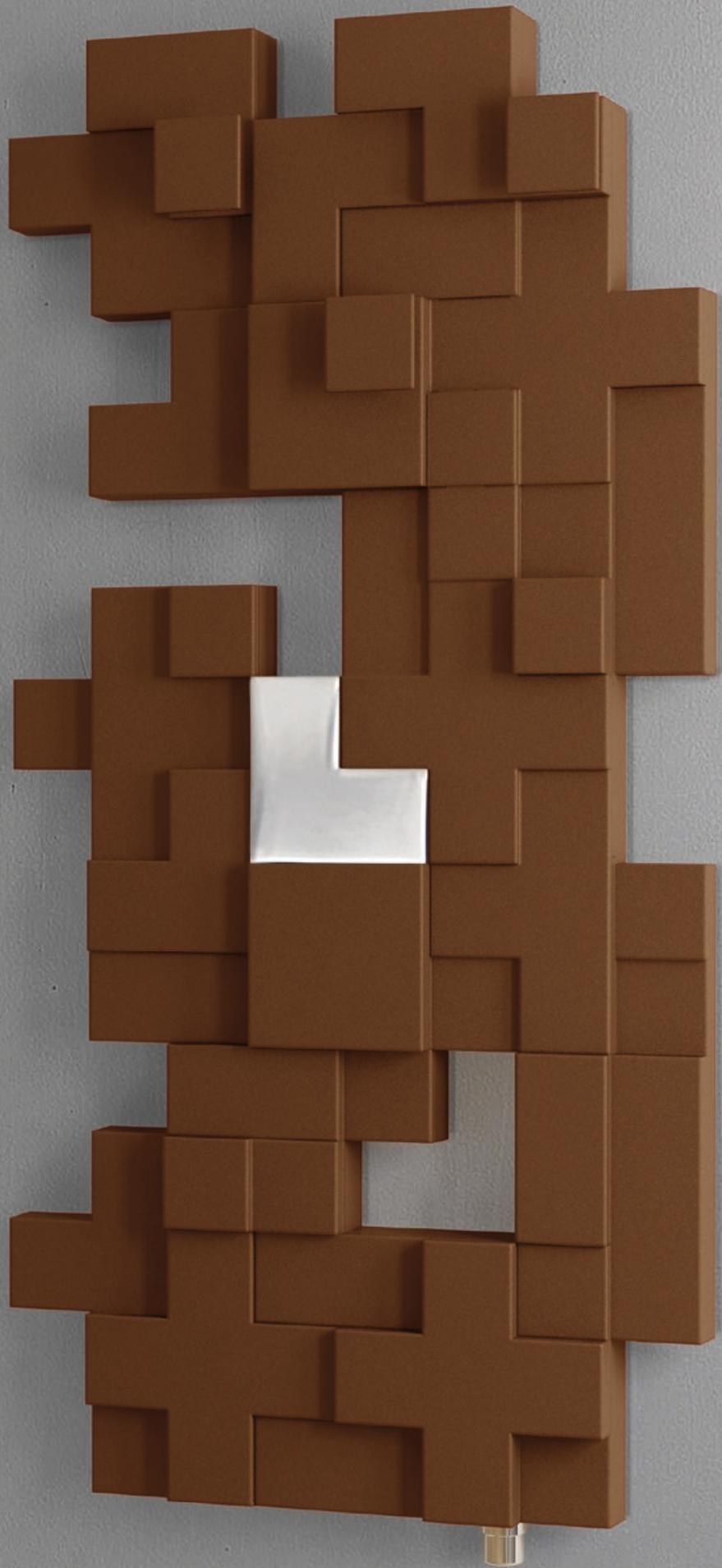
ABOVE AND NEXT:
Kulatto Thermosculptural Radiator and
Towel Warmer, finish Red painted
64x128x11cm





ABOVE:
Kulatto Thermosculptural Radiator and
Towel Warmer, finish White painted
64x128x11cm

NEXT:
Kulatto Thermosculptural Radiator and
Towel Warmer, finish Nut Brown painted
64x128x11cm



KULATTO THERMOSCULPTURAL HYDRONIC RADIATOR AND TOWEL WARMER

TECHNICAL SPECIFICATIONS AND PRICES

Main Materials:

Thermosculptural radiator made in aluminum with encased stainless steel pipes manufactured by t sculpt™ patented process.

Hydraulic kit as standard:

Thermostatic valve with flexible metal mesh hose for water inlet M3/8"
 Lockshield return valve with flexible metal mesh hose for water outlet M3/8"
 Air vent valve

Use:

10 bar maximum water pressure admitted with standard hydraulic kit
 20 bar maximum water pressure admitted with optional hydraulic kit
 90 °C maximum water temperature admitted



Model name	Model code	Finish	Finish code	Width X [mm]	Height Y [mm]	Depth Z [mm]	Heat output ΔT50K [W]	Heat output ΔT30K [W]	Weight [Kg]	Water content [Lt]
KULATTO	RKULATT064128010.01	White RAL9010 painted	RAL9010	640	1280	110	869	458	49	0,6
KULATTO	RKULATT064128010.01	Red RAL3020 painted	RAL3020	640	1280	110	869	458	49	0,6
KULATTO	RKULATT064128010.01	Blue NCSS5540R90B painted	NCSS5540R90B	640	1280	110	869	458	49	0,6
KULATTO	RKULATT064128010.01	Nut Brown RAL8011 painted	RAL8011	640	1280	110	869	458	49	0,6

OPTIONAL AVAILABLE FINISHES AND PRICES

This model can be further personalized according to the following finishes chart. For further details please refer to the Finishes Catalogue. Upon request it is possible to produce colours from customer's sample or to design special bespoke finishes based on specific needs.

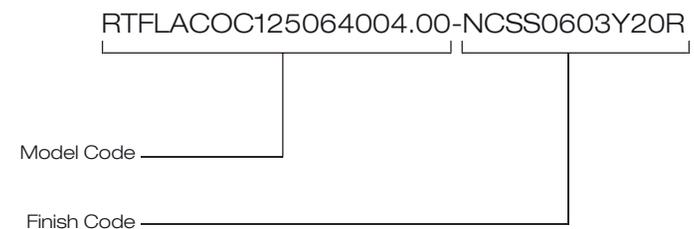
	RAL Paints	NCS Paints	PANTONE® Paints	PLUS Paints	NUDE ALUMINUM™							OXIDATION & PATINA		ALUMINUM TATTOO™	ENGRAVINGS, 3D RELIEFS AND IMPRESSIONS
					FLUID	MILL CIRCLE	FLEX	ORBITAL	SCOTCH	HUMM	MIRRA	FULL	CLOUD		
Available Finishes and % Surcharge Price	N.A.	.	.	.	.	.	.	.	N.A.	.

Please, consider that with MIRRA finish the heat output is reduced of 25%

HOW TO USE OUR CODES FOR A CORRECT ORDER

Phosphorus Imperfect uses a mnemonic code with intuitive terms to identify the product and the characteristics of the selected model. In order to fill correctly the order is important that the code of the article is the sum of the

Model Code plus the selected Finish Code which you can find on the above chart or on the Finishes Catalogue for all the other optional finishes. Please find here below an example:



KULATTO THERMOSCULPTURAL HYDRONIC RADIATOR AND TOWEL WARMER TECHNICAL DRAWINGS

LEGENDA



Flexo Connection Area for pipe positioning



Possible pipe positioning suitable from the floor or the wall



Thermostatic valve with flexible hoses for water inlet M3/8"



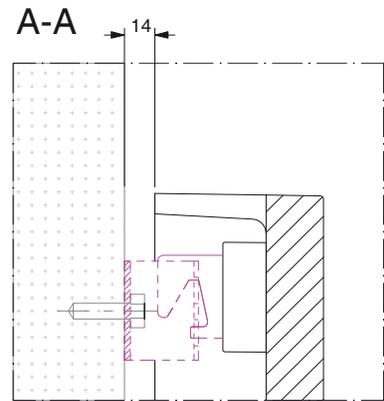
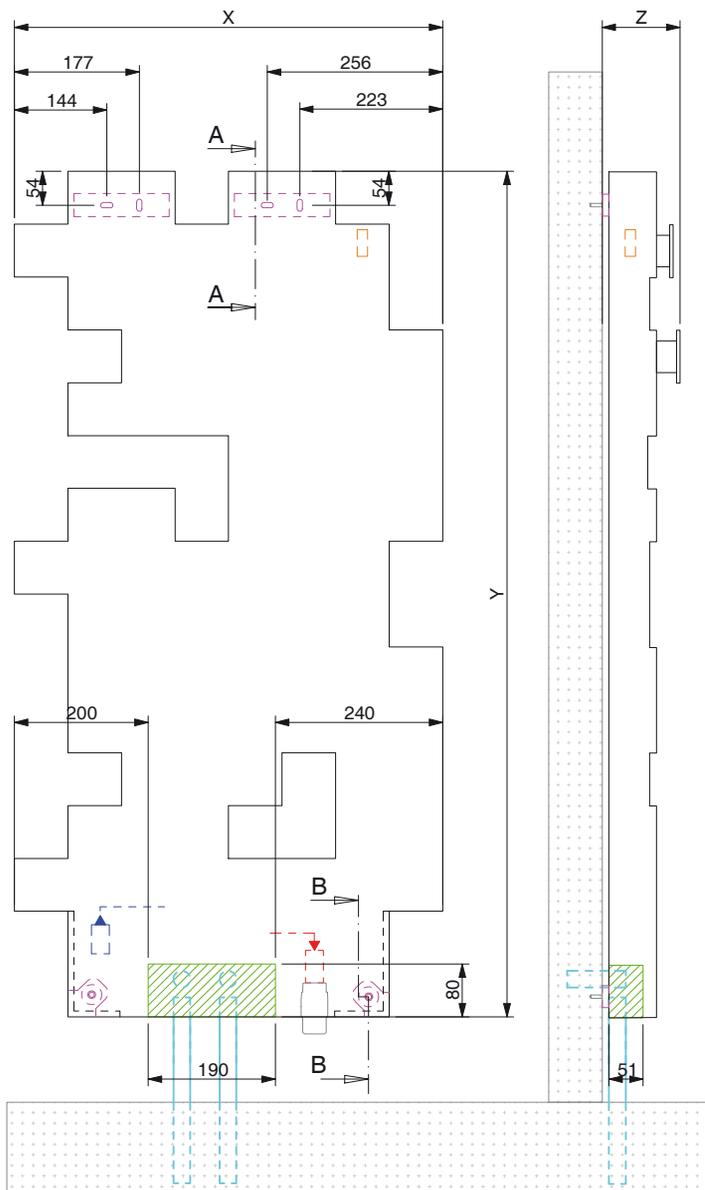
Lockshield return valve with flexible hoses for water outlet M3/8"



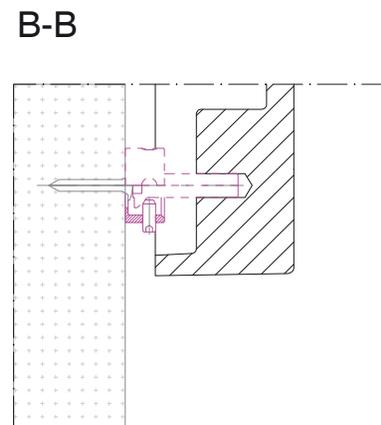
Rotolock swivel mounting system



Air vent valve



Rotolock swivel mounting system



PULPISTAR THERMOSCUPTURAL RADIATOR

Pulpitstar uses creative geometry to develop a sculptural pattern with an attention to detail found on refined traditional furniture. The intersection of planes builds a complex bas-relief pattern that can produce compelling shading variations showing the possibilities of t-sculpt to make an object that definitely stands out from the ordinary.

The choice of colours from bright to darker tones underlines different visual effect while offering design adaptability further enhanced by the irregular perimeter that breaks away with the traditional rectangular shape. This piece will be an ultimate visual attractor in different rooms and settings.

All of our products are the result of decades of perfect integration of technology, arts and artisan ability. Every thermosculptural radiator is designed and manufactured entirely in Italy using our t-sculpt™ patented process: a technology that lets the imagination run free to design and produce heated objects with an endless range of original shapes and superb finishes, while offering absolute comfort and top energy performance, ease of installation, quality materials and respect for the environment.

COLOURS AND FINISHES:

- Wide Range of RAL,NCS colours and innovative finishes
- Additional Standard Colours at No Extra Charge
- Custom from a Sample or Bespoke Colours and Finishes

FUNCTION PROPERTIES:

- Fast response time to heat up the room rapidly for a great comfort
- Significant energy savings thorough the fast response time and low water content
- Low-temperature efficient solution when coupled with condensing boilers and heat pumps
- High heat output ratio related to the overall radiator dimension
- Silent running
- Flexo Connection: a flexible pipework connection system for an easy and versatile installation
- Pipe connection inlet and outlet suitable either from the floor or the wall
- Rotolock: a swivel mounting system for an easy installation and maintenance
- Impeccable water tightness at high pressures
- Hideaway hydraulic kit, supplied as standard
- Thermostatic valve as standard for temperature fine tuning

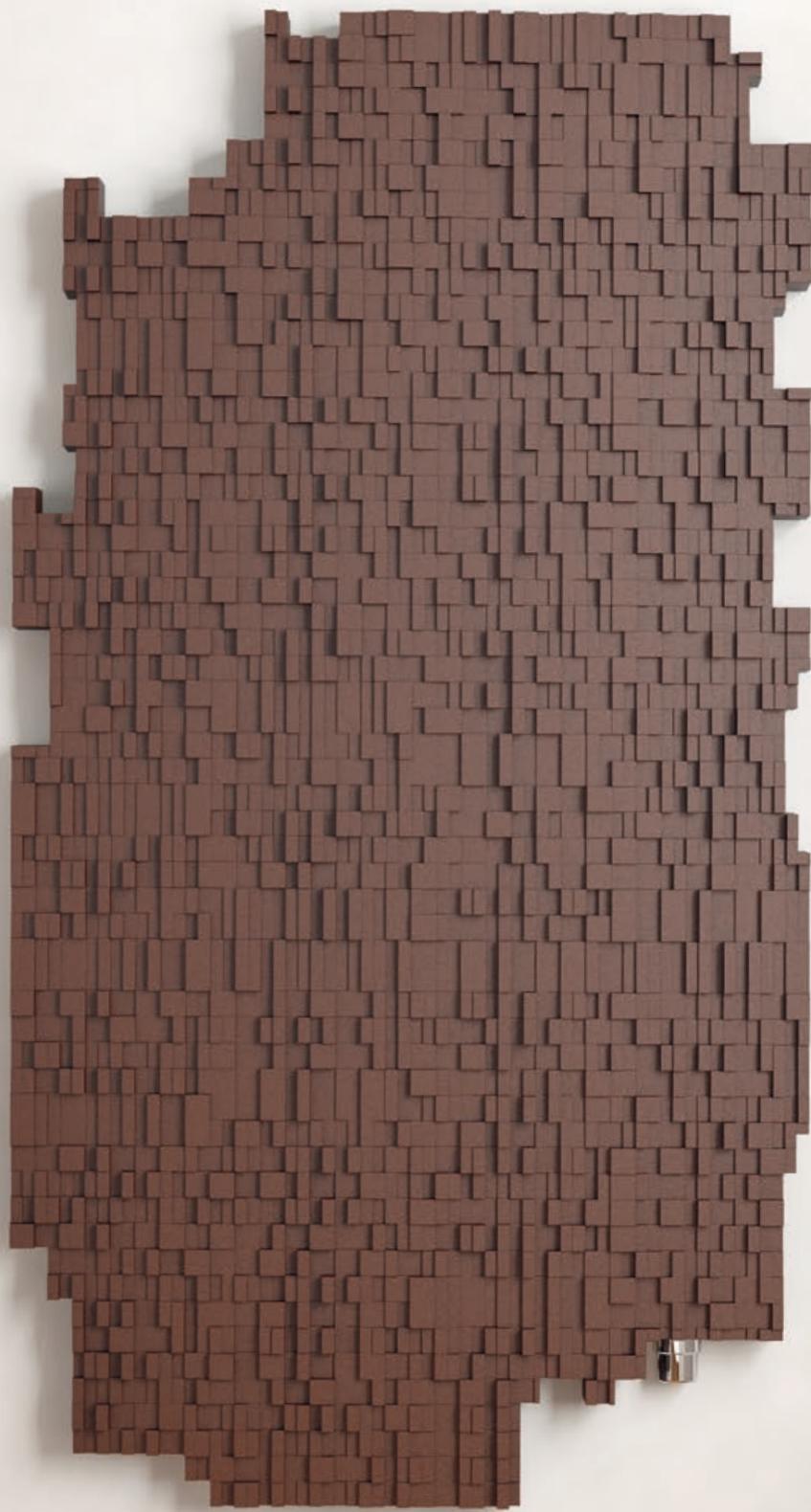
QUALITY MATERIALS:

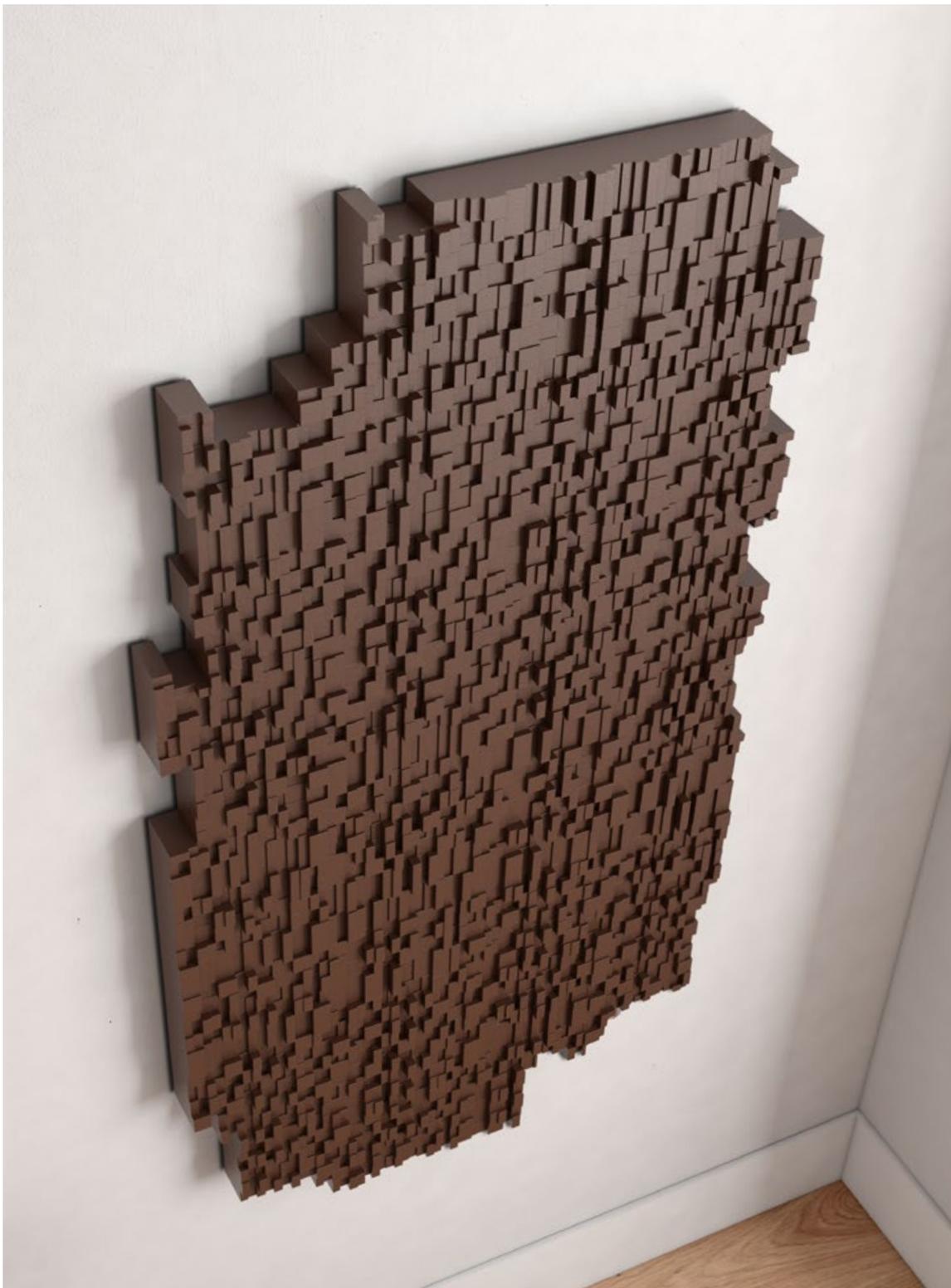
- Heating body made in aluminum with very high thermal properties and corrosion resistance
- Water pipes made in stainless steel for very high corrosion resistance
- RAL and NCS paints made in polyester powder-coat to guarantee the highest aesthetic quality, mechanical strength and high resistance to scratch, corrosion and UV rays

ENVIRONMENTALLY FRIENDLY:

- Energy saving and long-lasting product
- Low impact production process with a low LCA score
- Made of at least 30% recycled aluminum and fully recyclable again at the end of its lifecycle

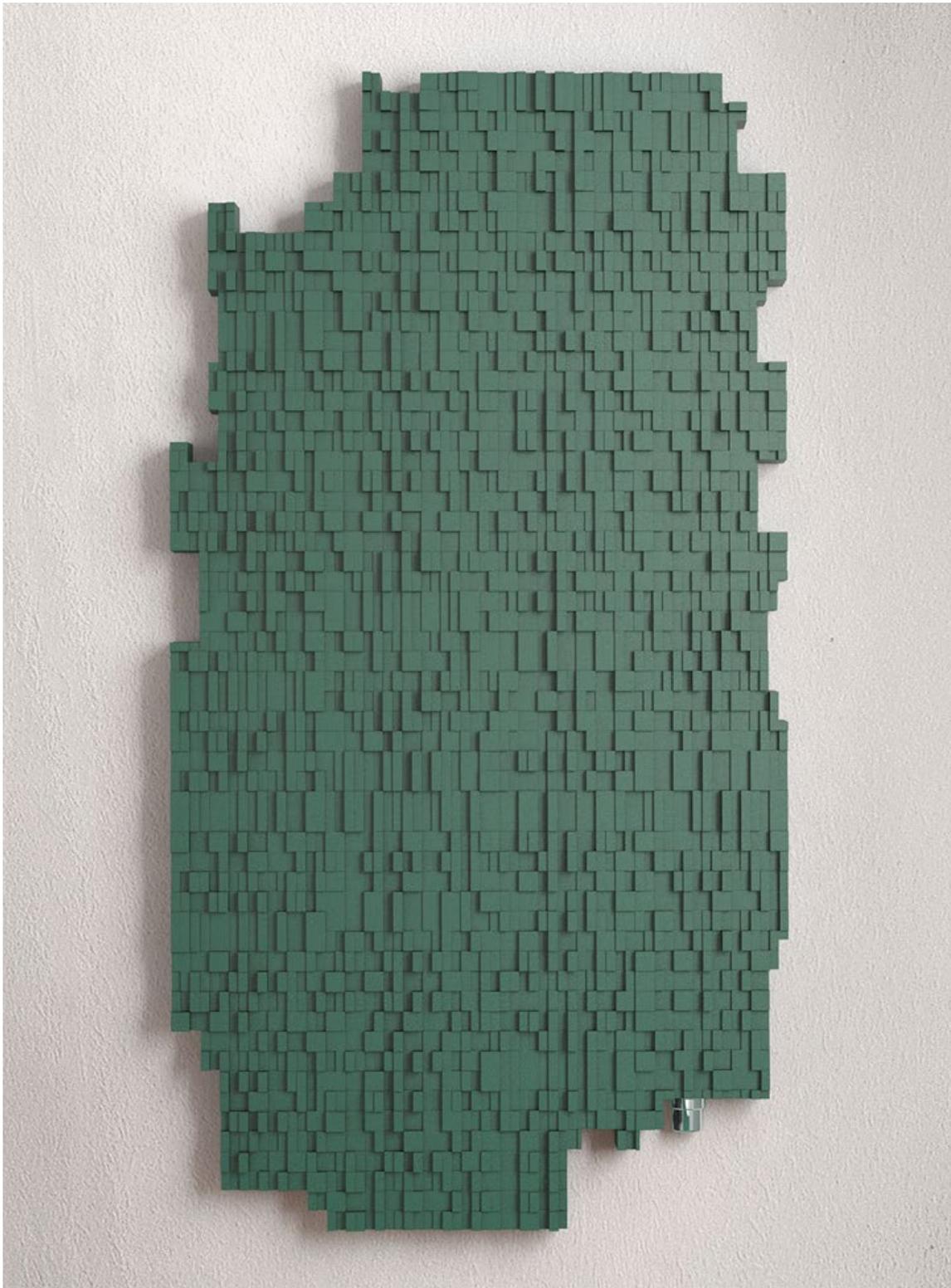
NEXT:
Pulpistar Thermosculptural Radiator,
finish Nut Brown painted
68x124x8cm





ABOVE AND NEXT.
Pulpistar Thermosculptural Radiator,
finish Nut Brown painted
68x124x8cm





ABOVE:
Pulpistar Thermosculptural Radiator,
finish Water Blue painted
68x124x8cm

NEXT:
Pulpistar Thermosculptural Radiator,
finish White painted
68x124x8cm



PULPISTAR THERMOSCULPTURAL HYDRONIC RADIATOR

TECHNICAL SPECIFICATIONS AND PRICES

Main Materials:

Thermosculptural radiator made in aluminum with encased stainless steel pipes manufactured by t sculpt™ patented process.

Hydraulic kit as standard:

Thermostatic valve with flexible metal mesh hose for water inlet M3/8"
 Lockshield return valve with flexible metal mesh hose for water outlet M3/8"
 Air vent valve

Use:

10 bar maximum water pressure admitted with standard hydraulic kit
 20 bar maximum water pressure admitted with optional hydraulic kit
 90 °C maximum water temperature admitted



Model name	Model code	Finish	Finish code	Width X [mm]	Height Y [mm]	Depth Z [mm]	Heat output ΔT50K [W]	Heat output ΔT30K [W]	Weight [Kg]	Water content [Lt]
PULPISTAR	RPULPIS068124006.01	White RAL9010 painted	RAL9010	680	1240	76	1193	629	46	0,6
PULPISTAR	RPULPIS068124006.01	Nut Brown RAL8011 painted	RAL8011	680	1240	76	1193	629	46	0,6
PULPISTAR	RPULPIS068124006.01	Water Blue RAL5021 painted	RAL5021	680	1240	76	1193	629	46	0,6

OPTIONAL AVAILABLE FINISHES AND PRICES

This model can be further personalized according to the following finishes chart. For further details please refer to the Finishes Catalogue. Upon request it is possible to produce colours from customer's sample or to design special bespoke finishes based on specific needs.

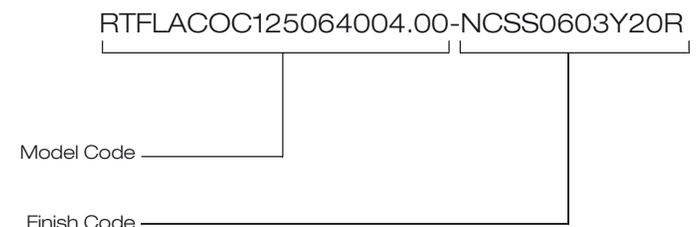
	RAL Paints	NCS Paints	PANTONE® Paints	PLUS Paints	NUDE ALUMINUM™							OXIDATION & PATINA		ALUMINUM TATTOO™	ENGRAVINGS, 3D RELIEFS AND IMPRESSIONS
					FLUID	MILL CIRCLE	FLEX	ORBITAL	SCOTCH	HUMM	MIRRA	FULL	CLOUD		
Available Finishes and % Surcharge Price	•	•	•	•	•	•							•	N.A.	N.A.

Please, consider that with MIRRA finish the heat output is reduced of 25%

HOW TO USE OUR CODES FOR A CORRECT ORDER

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Model Code plus the selected Finish Code which you can find on the above chart or on the Finishes Catalogue for all the other optional finishes. Please find here below an example:



PULPISTAR THERMOSCULPTURAL HYDRONIC RADIATOR TECHNICAL DRAWINGS

LEGENDA



Flexo Connection Area for pipe positioning



Possible pipe positioning suitable from the floor or the wall



Thermostatic valve with flexible hoses for water inlet M3/8"



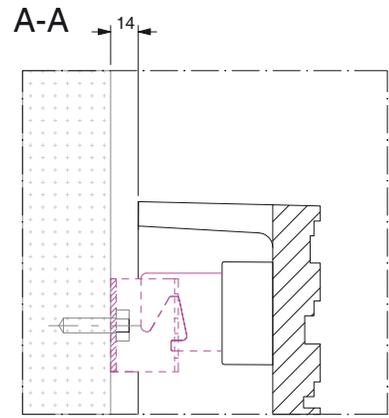
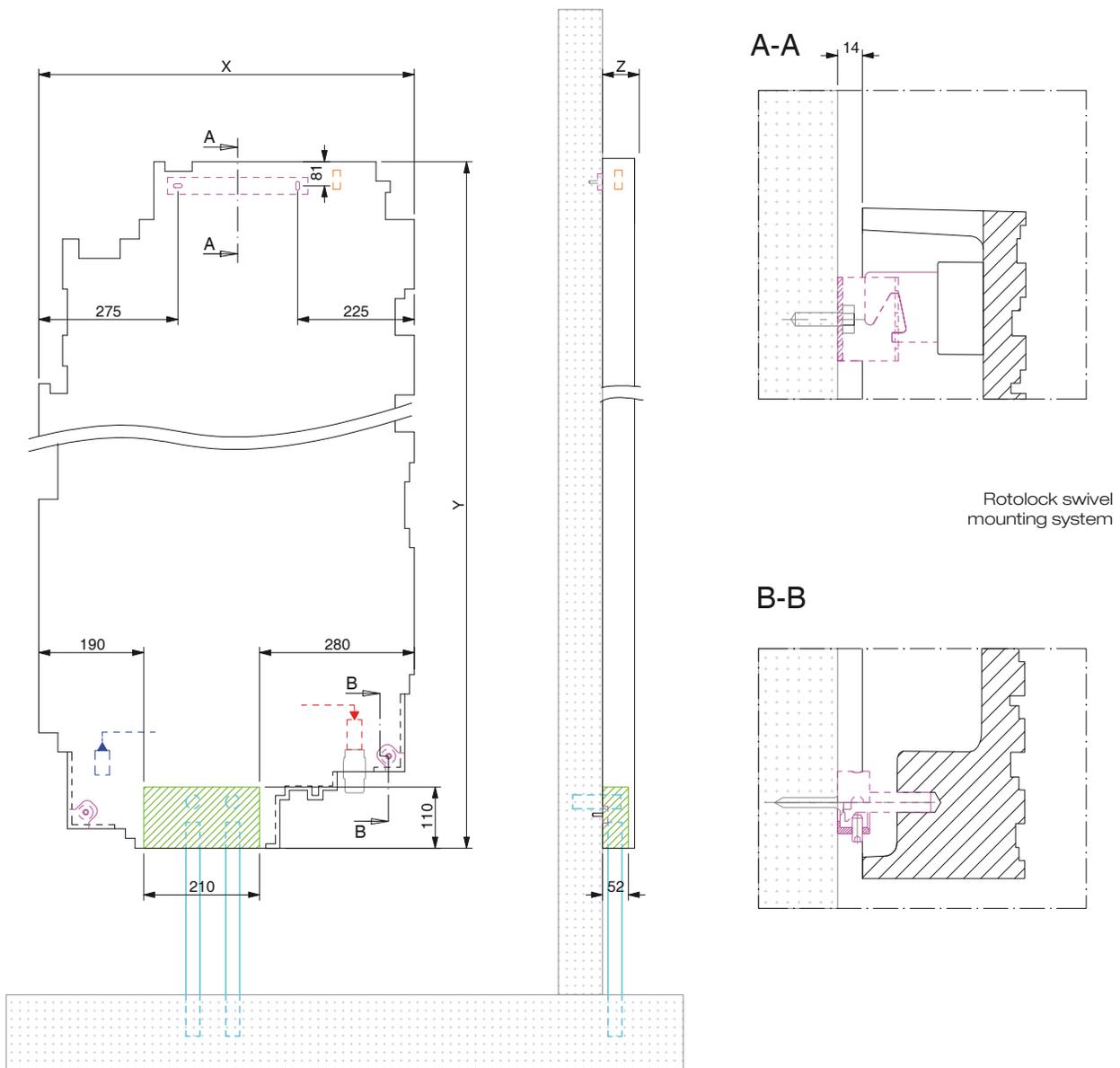
Lockshield return valve with flexible hoses for water outlet M3/8"



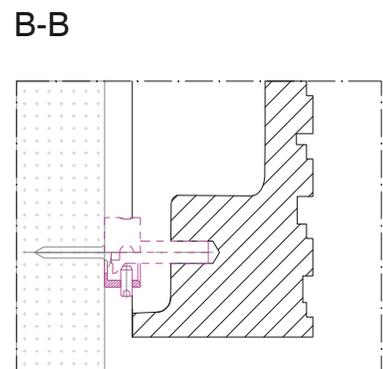
Rotolock swivel mounting system



Air vent valve



Rotolock swivel mounting system





t-sculpt™ TECHNOLOGY

NEXT:
Limited Edition Malet Thermosculptural Seat,
Malta island reconstruction

FREEDOM, WARMTH, PERFORMANCE

Extensive research has led us to develop a unique production technology, which we call t-sculpt. This technology enables us to design and produce amazing heating objects that can be used in countless ways in both classical and contemporary architecture, indoors or outdoors. The features that characterize the t-sculpt process are numerous. Here are the main ones:

FREE-FORM MODELING

The use of special casting processes allows us to produce shapes with a high degree of three-dimensionality and to create engraving and relief or bas-relief effects on surfaces. We call this "Free-Form Modeling". Specifically, it is a process that frees us from the constraints of having to create simple, "flat" surfaces, two-dimensional curves, or smooth surfaces as is the case with the more popular extrusion processes or in the shaping of sheet metal.



ALUMINUM AND ITS PHYSICAL AND CHEMICAL PROPERTIES

In our production processes, we use high-quality aluminum alloys which have a recycled metal content of at least 30%. Aluminum gives our products specific physical and chemical properties which guarantee the following: very high thermal conductivity and specific heat capacity for optimal temperature distribution and maintenance; very high corrosion resistance; low specific weight, roughly one-third that of steel; 100% recyclability; a particular chemical-physical reactivity allowing for innovative surface finishes.



HEAT DISTRIBUTION

By way of special steel heating conduits encased directly within the aluminum alloy, which minimize water flow, we are able to optimize heat distribution across the surfaces of the object. This ensures that the object heats quickly and uniformly and also results in significant energy savings. Furthermore, the stainless-steel construction of these conduits also helps eliminate any sort of degenerative corrosion.



VERSATILITY IN PRODUCTION

Flexibility in our organization and the versatility of our production systems enable us to effectively produce both our catalogue products and limited editions, while providing variations in form, finish and function in all our realizations. Product size can also be extremely variable, so that our productions can range anywhere from 30kg for radiators to heated functional sculptures for public spaces that weigh up to 3,000kg and can be up to 8 meters long.

LIMITLESS FREEDOM OF EXPRESSION OF SHAPE, TEXTURE AND FINISH

The freedom of expression permitted by our t-sculpt process lets the imagination run free to design and produce a vast variety of heated objects with an endless range of original shapes and superb finishes, while offering absolute comfort and top energy performance, ease of installation, quality materials and respect for the environment.

New ergonomics and textures, stunning finishes and colors to match any and all design needs enable our products to adapt to the size, materials, forms and decorations of the context in which they have to be installed.

THERMOSCULPTURAL RADIATORS, OUTDOOR AND URBAN FURNITURE, LARGE PUBLIC SCULPTURES, AND MUCH MORE

The extreme creative freedom made possible by our t-sculpt production process has enabled us not only to provide an original and exclusive interpretation of the radiators but also to design new applications and uses. In this way, we have created an entire series of innovative heated furniture objects for residential or urban locations that change the way in which people experience outdoor spaces during winter months, by enhancing their comfort and encouraging them to go outside and spend more time with others. Heated benches or sculptures in the form of seats and tables for use in gardens and cafés in winter or special warm installations in town squares are just a few examples of the infinite possibilities that we are constantly exploring.



HIGH ENERGY EFFICIENCY

The combination of the physical properties of the aluminum alloys and the method of producing our t-sculpt products using encased conduits result in significant thermal efficiency in terms of both the speed and uniformity of heat distribution and comfort. This all translates into significant energy savings and a low environmental impact.

FROM OUR CATALOGUE COLLECTION TO INDIVIDUAL BESPOKE PRODUCTS

The unique characteristics of t-sculpt technology, together with our streamlined method of managing design and production, enable us to create products in our catalogue as well as limited-edition objects, or even one-offs for highly personalized exclusive projects.

...an efficient, thermosculptural radiator in a private home, a comfortable heated seat in a town square, a heated large scale sculpture in a city park, or a unique cooled chair: t-sculpt is all this and so much more...



NEXT:
Limited Edition Belisma
Thermosculptural Radiator,
Milan city map

NEXT:
Limited Edition Malet Thermosculptural Seat,
Malta island reconstruction





Phosphorus Imperfect

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Design Studio and Head Office

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