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Iconic models 經典款

Anthropomorphic products
Modelling nature
Cultural archetypes
人形產品
師法自然
文化原型



LBR iiwa, lightweight robot | LBR iiwa, 輕量級機器手臂

Intelligent assistant

智能工業機器助手

“Robots of the world! Many humans have fallen. We have taken the factory and we are masters of the world. The era of man has come to its end. A new epoch has arisen! Domination by robots!” *

When Czech writer Karel Čapek wrote these lines in 1921 and thus introduced the term “robot”, which his brother had coined, to a broader audience for the first time, robots were still the product of fiction – something that was to remain so for several more decades. Yet, against the backdrop of the industrial revolution, it was already clear back then that it would only be a question of time until humans were capable of creating real robots. Until then, robots were brought to life only by authors and filmmakers in the science fiction genre. Sometimes robots were the good guys, sometimes the bad guys, but they almost always had a near human shape or at least some human traits – ranging from the machine-human in Fritz Lang’s film Metropolis from 1927, Isaac Asimov’s humanoid robots or R2D2 and C-3PO in Star Wars, to the Terminator, Transformers and Disney’s Wall-E.

「世上的機器人們！人類已經沈淪。我們佔領了工廠，成為世界的主宰。人類的時代結束，新的紀元來臨！從此由機器人統治天下！」*

捷克科幻小說家卡雷爾·恰佩克1921年將兄長約瑟夫·恰佩克首次提出的「機器人」這個詞彙介紹給世人，之後幾十年間，機器人僅存活在科幻世界中，直到工業革命後，機器人的應用才逐漸成為現實，不再只是小說家與製片人虛構的場景。無論是德國電影巨匠費立茲·朗1927年的「大都會」、美國科幻大師以撒·艾西莫夫「星際大戰」中的R2D2與C-3PO、還是「魔鬼終結者」、「變形金剛」、迪士尼的「瓦力」等等，劇中機器人的角色有好有壞，但型態大多很像人類。



Easy automation of assembly tasks with the LBR iiwa. | LBR iiwa 智能工業機器助手

* Novel "R.U.R." by Karel Čapek, 1921 | * (出處：小說R.U.R.，卡雷爾·恰佩克)

Today robots have successfully stepped out of the realm of fiction and become a reality, ushering in a new epoch in the area of manual work. More and more steps in production are performed by robots. However, scepticism, doubts and reservations still prevail among many people against these machines – often stemming from fear of one day being replaced by a machine. However, the LBR iiwa demonstrates what a robot that works side by side with humans could look like: This iiwa lightweight robot – “iiwa” stands for “intelligent industrial work assistant” – has been conceived to support humans working in production through direct interaction with them. The aim is a flexible division of labour between humans and robots as part of a new production concept. The robot is intended not only to perform tasks requiring extreme precision, but also to make life easier for humans by relieving them of strenuous, monotonous and even dangerous tasks.

As with many of its fictitious robot colleagues, the design vocabulary of this complex industrial robot is organic and at least remotely humanoid. The robot is modelled on the human arm, making it look somewhat familiar and inspire trust at the same time. Equipped with seven axes, the LBR iiwa also moves with the graceful and smoothly flowing movements of a human arm. Furthermore, it possesses interactive sensitivity for smooth operation. Thanks to its highly sensitive integrated sensors, the robot can react very quickly to its environment – it is able to “feel” its way towards objects, avoid obstacles automatically and withdraw instantly when gently pushed away by a human worker to interrupt its work. A little nudge then suffices to make the robot go back to work. In addition, the robot is also a quick learner – it allows itself to be guided by hand into the desired position. The coordinates of the new movement are then automatically saved in the corresponding program.

Smart functions and technologies combine in this robot into a shape that is inspired by the human body. The robot thus minimises existing safety issues concerning human-robot interaction and does away with the need for safety screens. Most importantly however, it dissipates fear of contact by turning itself into a perfect co-worker: interactive, sensitive, likeable and smart.

機器人現今已步出科幻世界，大幅提昇勞力密集領域的工作效率，並日漸成為工廠生產過程中不可或缺的幫手。與此同時，人們難免對機器人產生懷疑或排斥，害怕自己有一天會從工作崗位上被取代掉。德國庫卡公司研發的LBR iiwa為了解決這種疑慮，強調人與機器應該並肩合作。「iiwa」的意思是「智能工業機器助手」，目的在於直接與人互動，靈活分工，以全新方式合力達成生產線上的繁複要求。這款機器人不但能精準勝任細微動作，更能幫助工人輕鬆完成原本費力、單調、甚至危險的工作步驟。

類似科幻世界中的描述，這款精密工業機器人使用曲線作為設計語言，造型接近真實人類的手臂，看起來親切熟悉而且可靠。LBR iiwa具備七個轉軸，動作平順流暢，和人類手臂一樣優雅自然，另配有互動感應器，能快速適應周遭環境，「感受」到周圍物體的位置，進而自動避開障礙物。此外還能在被工人推開時立刻停止動作並退下，之後只要輕輕一點，就能馬上恢復運作。快速學習功能則能讓人帶領到指定的工作位置，並立刻將新的座標儲存到程式中。

以人體為靈感，這款機器助手結合實用功能與先進技術，大幅減少目前人機互動潛在的安全問題，不需再架設安全防護網。靈巧的互動與體貼聰明的設計能夠消除人們的恐懼，成為討人喜歡的完美工作伙伴。

Manufacturer: KUKA AG, Augsburg, Germany

In-house design: Achim Heinze, André Reekers, Dieter Schaab, Jorge Torres, Germany

Design: Selic Industriedesign (Mario Selic), Augsburg, Germany

Web: www.kuka.com, www.selic.de

Award: Red Dot: Best of the Best 2014

製造商：庫卡機器人集團，Augsburg奧格斯堡，德國

企業內部設計部門：Achim Heinze, André Reekers, Dieter Schaab, Jorge Torres, 德國

設計：Selic Industriedesign (Mario Selic), Augsburg奧格斯堡，德國

網址：www.kuka.com, www.selic.de

獎項：2014紅點設計最大獎





The Big Bubble, pendant luminaire | 大泡泡, 吊燈

Inspired by a magical moment

靈感來自魔幻時刻

The design of The Big Bubble pendant luminaire was inspired in its form by giant soap bubbles. Floating on the wind, soap bubbles induce a strange fascination in both children and adults. With their weightless appearance and self-contained yet ephemeral form continuously changing in colour, they embody timeless beauty – at least for a few seconds – until they suddenly burst and disappear. Soap bubbles therefore can also be found as a vanity motif in the fine arts, where they symbolise both the beauty and the transitory nature of human life.

「大泡泡」吊燈的靈感來自巨型的肥皂泡泡。漂浮在風中的泡泡，無論大人或小孩都感到新鮮又神奇。肥皂泡泡顏色千變萬化，外觀輕盈幾無重量，建構出各式獨特造型，成為永恆美感的化身；儘管只能維持短暫數秒，即驟然破裂消失無形。因此在藝術界肥皂泡常用來代表浮華的意念，呈現美感和人類生命短暫的本質。



The shape of The Big Bubble lights capture exactly this short magical moment when the soap bubble is about to reach full bloom — and freezes it in time. An ephemeral and highly fragile natural phenomenon is thus turned into a permanent object.

This effect is achieved through an artistic approach in processing the material of molten glass, which is blown by mouth by skilled artisans. The individual shapes result from the process of their creation, giving each luminaire a unique contour. The amorphous lighting objects with their thin glass skin are suspended by two fine wires that make them look as if they are floating in the air. Equipped with LED modules, the organically bulged glass bodies create ever-changing light reflections depending on the viewing angle. Inspired by nature, the luminaires thus emerged as emotionally appealing lighting objects that lend the fleeting beauty of a soap bubble a stable form and specific function.

「大泡泡」吊燈將泡泡最絢爛的魔幻瞬間凍結在時空中，稍縱即逝的脆弱自然現象得以轉化為永恆的物品。

這種效果由技術純熟的工匠在吹玻璃時，巧妙運用藝術技巧，藉由玻璃高熱下軟化的材料特性顯現出來。創作過程賦予每個吊燈獨一無二的形狀和色彩。兩根細線懸吊著無固定造型的玻璃薄壁，營造出漂浮在空中的視覺效果。曲線優美的玻璃隨著觀賞角度不同，內部LED模組將映照出多變的色澤。受到自然啟發，此吊燈意在點亮人們的情感，為肥皂泡泡稍縱即逝的美感賦予經典恆久的造型與實用功能。



Manufacturer: Dark at night NV, Maldegem, Belgium

Design: Alex de Witte, 's-Hertogenbosch, Netherlands

Web: www.dark.be, www.alexdewitte.nl

Award: Red Dot 2014

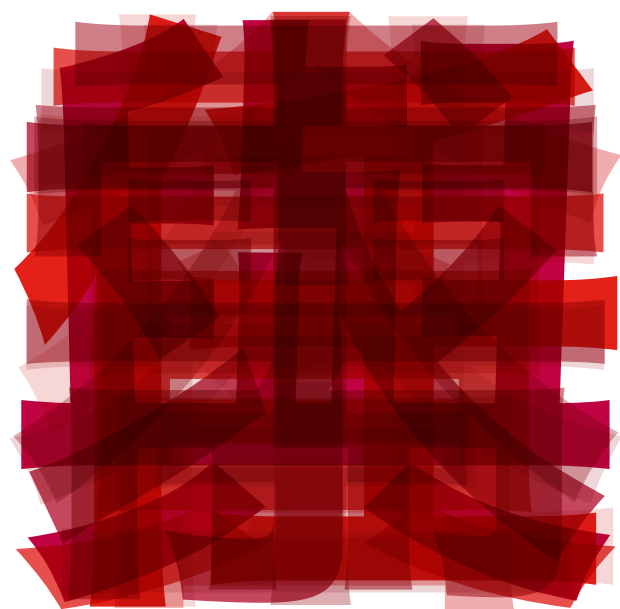
製造商: Dark at night NV Maldegem馬爾德海姆, 比利時

設計: Alex de Witte, 's-Hertogenbosch斯海爾托亨博斯, 荷蘭

網址: www.dark.be, www.alexdewitte.nl

獎項: 2014紅點設計獎





Basic needs & social responsibility 基本需求與 社會責任

Survival
Resting
Preventing fear
Social responsibility
生存
休息
免於恐懼
社會責任



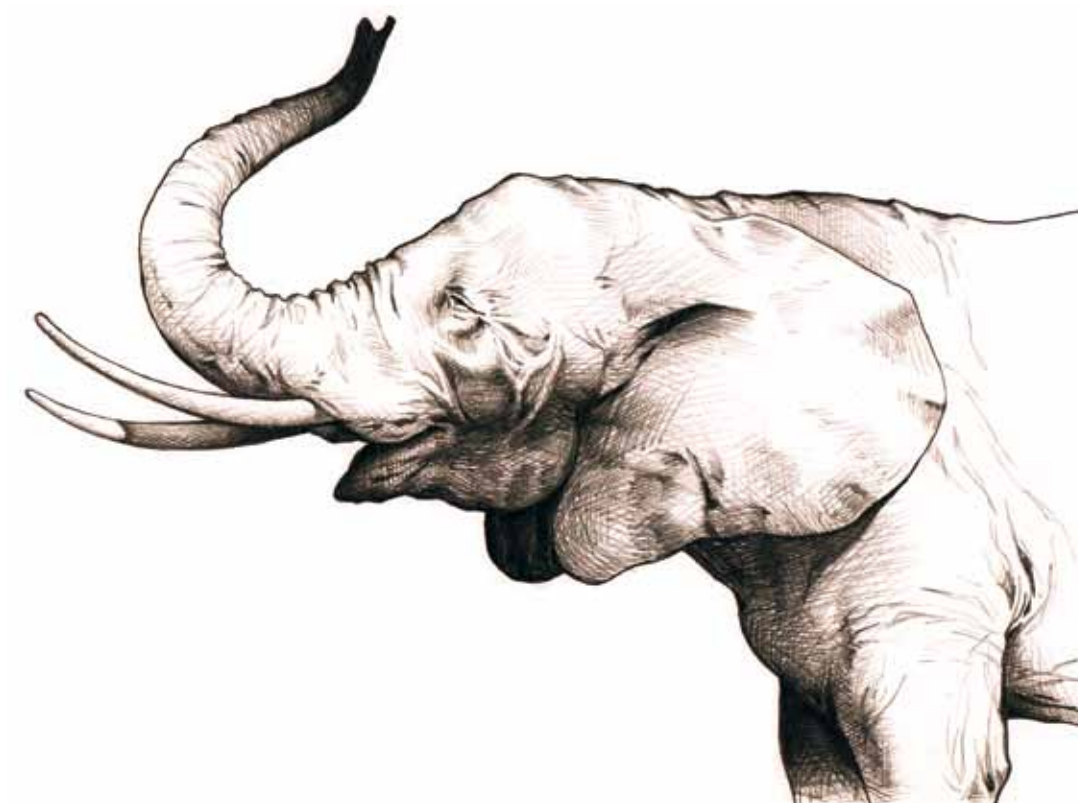
Firephant, fire extinguisher | Firephant, 滅火器

Icon of protection

保障安全的經典產品

Life is full of risk. From the very first breath to the last, we are constantly at risk of an early death – be it due to disease, a natural disaster or a sudden accident. Being faced with the risks of everyday life does not mean, however, that we are constantly worried about them. In the best case, we take preventive measures or get tools in order to be better prepared if the occasion arises. Once all preparations are done, we can forget about the risks and free our minds of all possible dangers in our lives – and be free to concentrate fully on living.

生活中充滿未知的風險。疾病、天災、意外等因素隨時可能危害生命。所幸有許多工具可以幫助預防災難失控，有了萬全的準備，我們就能放心享受生命中的美好事物，不需時時刻刻擔憂恐懼。



A fire extinguisher for home use is one of those very tools for minimising physical harm and the risk of death — namely in the event of a fire breaking out which, if not fought immediately, can quickly get out of control and turn into a life-threatening inferno. However, most fire extinguishers feature a design that only complies with purely technical requirements. This results in fire extinguishers being functional as well as highly visible due to their most often red signal colouring. Unfortunately, however, it makes them unattractive, so that they are often hidden from direct view in home interiors. Instead of being present and ready for use in next to no time, they lead a shadowy existence, relegated to dark corners, cupboards or even the cellar.

The Firephant fire extinguisher is a welcome exception: Thanks to its sculptural design, it turns the fire extinguisher from a useful yet unloved everyday object into a true design object that no longer has to be hidden away. With its gently flowing lines and the organically curved handle, it is reminiscent of an elephant that lifts its long trunk in a greeting. It thus inspires friendliness and no longer runs the risk of being forgotten.

Furthermore, the clear and reduced design vocabulary makes the Firephant intuitive to use in the case of fire: Users need only release the safety clip, aim the elephant trunk shaped handle at the fire and shoot to spray the extinguishing agent directly at the flames. Thus, the Firephant turns into an icon of protection that people like to decorate their homes with and that reduces one of the risks we face in our lives.

家庭用滅火器就是確保居家安全不可或缺的用品。火災發生時需立即應變，火勢才不致失控，把損害降到最低，保障生命財產安全。可是傳統滅火器的設計往往只達到功能要求，並不美觀，法規要求的紅色放在家裡更顯得刺眼，因此常被收藏在陰暗的角落、櫥櫃、或地下室，緊急時刻不容易取得。

Firephant「滅火象」解決了這個難題。精雕細琢的外型讓不起眼的滅火器成為設計精品。曲線流暢、把手微彎，像是舉起鼻子跟人打招呼的大象，親切有趣，讓人捨不得把它藏起來。

Firephant「滅火象」簡明清晰的設計語言符合直覺，非常容易使用，發生緊急狀況時人們能立刻解開安全別針，對準火源噴射。這個經典產品化身為居家佈置的主角之一，垂手可得，大幅降低火災發生時可能造成的損害。

Manufacturer: GPBM Nordic, Mölndal, Sweden
Design: Firephant (Lars Wettre, Jonas Forsman), Sweden
Web: www.gpbmnordic.com, www.wettre.se
Award: Red Dot: Best of the Best 2012

製造商: GPBM Nordic, Mölndal 默恩達爾, 瑞典
設計: Firephant (Lars Wettre, Jonas Forsman), 瑞典
網址: www.gpbmnordic.com, www.wettre.se
獎項: 2012紅點設計最大獎





Materials 材料

Materiality
Weight reduction
Form reduction
材質
輕量化
簡化形式



BMW i3, passenger car | BMW i3, 轎車

Electrifying mobility

風馳電掣

Worsening air pollution in many urban areas, growing environmental awareness and rising energy prices over the last two decades have prompted many car manufacturers to search more intensively for new models of future mobility. Investment in the development and production of electric cars in particular has risen substantially. However, the results have not yet been entirely convincing – internal combustion engines have simply been swapped for electric motors without fundamentally rethinking the car itself.

過去二十年來空氣污染日漸惡化、環保意識提高、能源價格不斷上漲，汽車製造廠商無不積極尋找適合未來的理想行動方式，例如電動車。雖然近年來研發生產電動車的投資比重越來越高，效能卻仍不盡理想。車商往往只是把一般汽車的內燃引擎置換成電動摩打，卻沒有重新思考整輛車的設計。



BMW followed a different approach when creating their electric concept car: The development of the BMW i3 started in 2007 from a blank sheet of paper; the idea was to completely rethink the electric car by optimising every detail for maximum performance. Since increased weight translates directly into a shorter range, one of the prime objectives was to reduce the car's weight to an absolute minimum. This development effort resulted in an electric car with an innovative architecture – without transmission line, gearbox, fuel tank or exhaust system, and with a battery that is integrated into the underfloor. The passenger compartment is constructed entirely from carbon, a material that is as strong and impact-resistant as steel but with just half the weight. The car thus manages to make up fully for the extra weight of the battery, resulting in a total weight of slightly over one ton. Fully charged, the battery gives the car a range of up to 160 kilometres and can be recharged at quick-charging stations to 80 per cent capacity in as little as 30 minutes.

The familiar car interior has also been radically rethought in the design process. The BMW i3 dispenses with both a centre console and the classic look of a cockpit. Instead, it features two displays that show all navigation information, enhancing the futuristic feel of the BMW i3's near-silent driving experience. The design of the exterior, with its smooth surfaces and precise edges, conveys reliability, safety and lightness – an exterior architecture that both underscores the use of innovative technology and lends the BMW i3 a self-contained identity.

With the design objective of entirely rethinking the electric car, BMW i3 has emerged as a vehicle that successfully gives electric propulsion technology a pioneering form. The result is a next-generation car that is to earlier electric cars as flat-screen monitors are to the earliest vacuum-tube televisions – a vehicle that can surely contribute to accelerating the long overdue trend towards replacing internal combustion engines with electric motors.

BMW公司打造電動概念車時則採取了截然不同的方法：2007年，BMW i3電動車型從零開始，不受任何傳統汽車設計的侷限，每個細節都專門為電動車量身打造，以追求極致表現，由於每一分車重都會縮短電池續航的里程，因此輕量化成為首要目標。這款電動車擁有全新的架構：沒有傳動軸、變速箱、油箱、或排氣系統，電池整合在底盤下方。乘客座艙完全由碳纖維強化塑料製成，強度與撞擊承受度和鋼材一樣，重量卻只有一半，正好抵消了電池增加的重量，全車僅約一噸重。充飽電力時續航里程最高可達160公里，快速充電站可在30分鐘內將這款車充電至80 %。

汽車內裝也全新改造過，不再使用傳統的中控台和儀表板，BMW i3以兩個螢幕顯示出所有導航資訊，與未來科技感十足的安靜駕駛體驗相得益彰。汽車外觀的流暢曲面與精準邊緣傳遞出穩定、安全、輕盈的設計語言，表達出BMW i3的創新技術與自成一格的獨特產品識別。

BMW i3成功為電驅科技找到了前衛的表達形式，重新塑造電動車的樣貌。這款新車與早期電動車相對照，就像當今的平面電視與早期映像管螢幕的對比一樣，讓電動車取代傳統內燃引擎汽車的趨勢又往前邁出一大步。

Manufacturer: BMW Group, Munich, Germany

In-house design: BMW Group, Germany

Web: www.bmwgroup.com

Award: Red Dot: Best of the Best 2014

製造商: BMW集團, Munich慕尼黑, 德國

企業內部設計部門: BMW集團, 德國

網址: www.bmwgroup.com

獎項: 2014紅點設計最大獎





Invisible Table | 隱形桌

Bordering on the immaterial

有形無形之間

Tables have existed since antiquity. They are objects of everyday use that are marked in essence by a horizontal board resting on four legs or some other kind of base frame. There is hardly a shape, material, colour, construction type or decorative design that has not been tried out at some point in history. Therefore, reinventing the table is an almost impossible endeavour. It is all the more interesting, then, to see what happens when a designer is commissioned to do exactly that. When designing the Invisible Table, Japanese designer Tokujin Yoshioka decided on a radical minimalism as called for by architect Ludwig Mies van der Rohe with his design principle of “Less is more”. Dating from the first half of the twentieth century, this principle continues to influence many design works to this very day. Mies van der Rohe propagated a reduction to the essential, the elimination of all unnecessary features – a minimalism defined by strict formal purity and clear geometries.

人類使用桌子由來已久，桌子基本上只是將板子平放在桌腳或底座上。回顧歷史，各種形狀、材料、顏色、結構、造型的桌子幾乎都有人嘗試設計過，想要再創造出前所未見的桌子幾乎是不可能的任務，設計師該如何尋求突破？日本設計師吉岡德仁創造「隱形桌」時，決定將德國建築大師密斯·凡德羅「少即是多」，提倡去蕪存菁，避免任何不必要裝飾的哲學發揮到極致。二十世紀上半葉興起的極簡主義講究純粹、嚴謹、清晰的幾何形狀，至今仍深深影響眾多設計作品。吉岡德仁的「隱形桌」不但體現極簡主義，更青出於藍。本系列傢俱的桌面使用創新鑄造技術，加工整片亞加力有機玻璃，作工最精細的型號看起來完全透明沒有任何色彩，造型完美、功能實用，虛無透明，再簡化一絲一毫彷彿就會消失於無形，視覺效果驚人。



Less is more: The Farnsworth House in Plano, Illinois, was designed and constructed by Ludwig Mies van der Rohe between 1945 and 1951. | 「少即是多」：位於美國伊利諾州布蘭諾市的范士沃斯住宅，由建築大師密斯·凡德羅於1945至1951年間建造。

The Invisible Table is not only inspired by this design principle, it actually takes it to the extreme: Tokujin Yoshioka has created a table with a square table top, all from one single piece of acrylic glass, facilitated by employing an innovative casting process. The most rigorous model in this series is entirely colourless and transparent – creating a fascinating effect. The result is a perfectly shaped, fully functional table that exudes an ethereal, almost invisible appearance. Less than this would indeed equal nothing.

This uncompromising formal reduction of the Invisible Table sounds out the border between a physical object and the immaterial, the pure idea of an object in the sense of Plato's Theory of Forms. The Invisible Table is both a real table and the idea of a table. This inherent purism is also infused by the philosophy of Zen Buddhism: There is nothing superfluous about the table, nothing that distracts the mind seeking concentration. Be it Zen Buddhism, Mies van der Rohe's minimalism or Plato's Theory of Forms – with its formal and material reduction, the Invisible Table delivers one thing for sure: ample leeway for projections by adherents to the most diverse currents in philosophy and design. And what is more, it also delivers by evoking emotions.

When characters in fairy tales and legends put on their magic caps of invisibility, they can for a short period wander ghostlike through the world, play tricks on their enemies, defeat dragons, save their beloved or steal treasures. However, the objects they touch and carry while invisible themselves usually remain visible, which makes them float as if by magic through the air, bringing awe and astonishment to otherwise unsuspecting beholders. The Invisible Table has a somewhat similar effect: Whatever object people place on it, at first sight it seems to be floating weightlessly in the air. Thus, the Invisible Table first inspires surprise and then joy from beholders – an outstandingly strong response towards a piece of furniture that otherwise does not pretend to be anything more than a familiar side table. It is through the consistent reduction that it acquires a poetic nature and thus fires the imagination. The “less” in the table's design and physical presence thus successfully triggers a “more” in emotions.

一絲不苟的造型簡化挑戰有形與無形之間的界線，呼應西方柏拉圖提出的理型論：「隱形桌」既是一張實體的桌子，又幾乎像是桌子這個概念的理想型態。其純粹的內涵同時也充滿東方禪意，沒有任何多餘成分，讓人心如止水、專注當下。無論是禪宗的哲理、柏拉圖的理型論、或是密斯·凡德羅的極簡主義，「隱形桌」簡化形式與材料到極致，能感動人心，為設計與各種哲學思路打開無限想像空間。

童話傳說中的人物一旦披上隱形斗篷就消失無蹤，能夠如鬼魅般四處惡作劇、擊退惡龍、拯救同伴或竊取寶藏。隱形人還能拿起物品，像魔術般懸空嚇唬周遭的人，「隱形桌」具有類似的效果。放在桌上的物品乍看之下幾乎像是漂浮在空中，讓人看了先是驚訝，然後感到新鮮有趣。這款看似簡單平凡的桌子在不斷簡化的過程中成就出蘊含深意的本質，實體設計上的「少」成功激發更「多」情感與想像空間，為生活增添無窮樂趣。

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