## **PATENTS**

| S/N | REGISTERED OWNER                             | TITLE   | TERRITORY | FILING DATE | FILING/PATENT NO | STATUS  |
|-----|--|---|-----------|-------------|------------------|---------|
| 1   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Method for reducing stress in coatings produced by phys   | China     | 13 Jan 2005 | ZL201010168209.0 | Granted |
| 2   | Nanofilm Technologies International Limited  | Arc deposition apparatus and method                       | Singapore | 19 Jan 2005 | 2005002605       | Granted |
| 3   | Nanofilm Technologies International Limited  | Continuous arc deposition apparatus and method with m     | Singapore | 07 Feb 2005 | 2005006754       | Granted |
| 4   | Nanofilm Technologies International Limited  | Continuous arc deposition apparatus and method with m     | Japan     | 22 Feb 2005 | 4866555          | Granted |
| 5   | Nanofilm Technologies International Limited  | Continuous arc deposition apparatus and method with m     | USA       | 23 Feb 2005 | 7871506          | Granted |
| 6   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Method and apparatus for removing materials from a sul    | China     | 17 Aug 2005 | ZL200510090505.2 | Granted |
| 7   | Nanofilm Technologies International Limited  | Metal Coatings  | Singapore | 07 Aug 2006 | 2006053342       | Granted |
| 8   | Nanofilm Technologies International Limited  | Cutting tools having plasma deposited carbon coatings     | Singapore | 26 Jun 2007 | 2009085895       | Granted |
| 9   | Nanofilm Technologies International Limited  | Cutting tools having plasma deposited carbon coatings     | UK        | 26 Jun 2007 | 2463439          | Granted |
| 10  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Cutting tools having plasma deposited carbon coatings     | China     | 26 Jun 2007 | ZL200780053790.8 | Granted |
| 11  | Nanofilm Technologies International Limited  | A novel coating having reduced stress and a method of d   | Singapore | 09 Jun 2009 | 2010085215       | Granted |
| 12  | Nanofilm Technologies International Limited  | A novel coating having reduced stress and a method of d   | Singapore | 09 Jun 2009 | 2011089869       | Granted |
| 13  | Nanofilm Technologies International Limited  | A method for rapid deposition of a coating on a substrate | Singapore | 09 Jun 2009 | 2010085199       | Granted |
| 14  | Nanofilm Technologies International Limited  | A process for producing an image on a substrate           | Singapore | 09 Jun 2009 | 2010085173       | Granted |
| 15  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A novel coating having reduced stress and a method of d   | China     | 09 Jun 2009 | ZL200980119079.7 | Granted |
| 16  | Nanofilm Technologies International Limited  | Filter for removing macro-particles from a plasma beam    | Japan     | 30 Sep 2011 | 5554451          | Granted |
| 17  | Nanofilm Technologies International Limited  | Filter for removing macro-particles from a plasma beam    | Singapore | 30 Sep 2011 | 2013017272       | Granted |
| 18  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Filter for removing macro-particles from a plasma beam    | China     | 30 Sep 2011 | ZL201180045433.3 | Granted |
| 19  | AxynTeC Dünnschichttechnik GMBH              | Material composite composed of metal/DLC/fibre-reinfo     | Europe    | 10 Mar 2015 | EP2918406        | Granted |
| 20  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating method for novel nanometer anti-fingerprint film  | China     | 26 Feb 2016 | ZL201610105969.4 | Granted |
| 21  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Method for coating high temperature-resistant diamond-    | China     | 13 Dec 2016 | ZL201611271853.4 | Granted |
| 22  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Color matching method of decorative diamond-like carbo    | China     | 13 Dec 2018 | ZL201811524484.0 | Granted |
| 23  | Nanofilm Technologies International Limited  | Thick, Low-Stress Tetrahedral Amorphous Carbon Coating    | Europe    | 08 Oct 2019 | 3864186          | Granted |
| 24  | Nanofilm Technologies International Limited  | Thick, Low-Stress Tetrahedral Amorphous Carbon Coating    | Japan     | 08 Oct 2019 | 7426386          | Granted |
| 25  | Nanofilm Technologies International Limited  | Thick, Low-Stress Tetrahedral Amorphous Carbon Coating    | Singapore | 08 Oct 2019 | 11202102611X     | Granted |
| 26  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Thick, Low-Stress Tetrahedral Amorphous Carbon Coating    | China     | 08 Oct 2019 | ZL201910947105   | Granted |
| 27  | Nanofilm Technologies International Limited  | Ta-C Based Coatings with Improved Hardness                | Europe    | 07 Nov 2019 | CT/EP2019/08061! | Pending |
| 28  | Nanofilm Technologies International Limited  | Ta-C Based Coatings with Improved Hardness                | Japan     | 07 Nov 2019 | 7340016          | Granted |

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|-----|--|---|-----------|-------------|-------------------|---------|
| 29  | Nanofilm Technologies International Limited  | Ta-C Based Coatings with Improved Hardness                | Singapore | 07 Nov 2019 | 11202103338R      | Granted |
| 30  | Nanofilm Technologies International Limited  | Ta-C Based Coatings with Improved Hardness                | USA       | 07 Nov 2019 | 11643733          | Granted |
| 31  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Carbon Coatings with Improved Hardness                    | China     | 07 Nov 2019 | ZL201911082344.0  | Granted |
| 32  | Nanofilm Technologies International Limited  | Temperature Resistant Carbon Coatings                     | Europe    | 07 Nov 2019 | CT/EP2019/080620  | Pending |
| 33  | Nanofilm Technologies International Limited  | Temperature Resistant Carbon Coatings                     | Japan     | 07 Nov 2019 | 7440508           | Granted |
| 34  | Nanofilm Technologies International Limited  | Temperature Resistant Carbon Coatings                     | Singapore | 07 Nov 2019 | 11202103322P      | Granted |
| 35  | Nanofilm Technologies International Limited  | Temperature Resistant Carbon Coatings                     | USA       | 07 Nov 2019 | 12123088          | Granted |
| 36  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Temperature Resistant Carbon Coatings                     | China     | 07 Nov 2019 | ZL201911082426.5  | Granted |
| 37  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Corrosion Resistant Carbon Coatings                       | China     | 16 Dec 2019 | ZL201911299695.7  | Granted |
| 38  | Nanofilm Technologies International Limited  | Corrosion Resistant Carbon Coatings                       | Europe    | 17 Dec 2019 | CT/EP2019/08561   | Pending |
| 39  | Nanofilm Technologies International Limited  | Corrosion Resistant Carbon Coatings                       | Japan     | 17 Dec 2019 | 7507766           | Granted |
| 40  | Nanofilm Technologies International Limited  | Corrosion Resistant Carbon Coatings                       | Singapore | 17 Dec 2019 | 11202104746X      | Granted |
| 41  | Nanofilm Technologies International Limited  | Corrosion Resistant Carbon Coatings                       | USA       | 17 Dec 2019 | CT/EP2019/08561   | Pending |
| 42  | Nanofilm Technologies International Limited  | Improved Coating Processes                                | Europe    | 13 Mar 2020 | PCT/EP2020/056864 | Pending |
| 43  | Nanofilm Technologies International Limited  | Improved Coating Processes                                | Japan     | 13 Mar 2020 | 7382124           | Granted |
| 44  | Nanofilm Technologies International Limited  | Improved Coating Processes                                | Singapore | 13 Mar 2020 | 11202109137X      | Granted |
| 45  | Nanofilm Technologies International Limited  | Improved Coating Processes                                | USA       | 13 Mar 2020 | PCT/EP2020/056864 | Pending |
| 46  | Nanofilm Technologies International Limited  | Improved Cathode Arc Source                               | Europe    | 13 Mar 2020 | 3938557           | Granted |
| 47  | Nanofilm Technologies International Limited  | Improved Cathode Arc Source                               | Japan     | 13 Mar 2020 | 7390396           | Granted |
| 48  | Nanofilm Technologies International Limited  | Improved Cathode Arc Source                               | Singapore | 13 Mar 2020 | 11202109135U      | Granted |
| 49  | Nanofilm Technologies International Limited  | Cathode Arc Source  | USA       | 13 Mar 2020 | 11926890          | Granted |
| 50  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Improved Coating Processes                                | China     | 15 Mar 2020 | ZL202010178790.8  | Granted |
| 51  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Improved Cathode Arc Source                               | China     | 15 Mar 2020 | ZL202010178933.5  | Granted |
| 52  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coloured Coatings   | China     | 06 Nov 2020 | ZL202011228218.4  | Granted |
| 53  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A Coating Jig   | China     | 11 Dec 2020 | 202011456617.6    | Pending |
| 54  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Device and Method for Detecting Rotating Performance      | China     | 29 Dec 2020 | 202011594045.8    | Pending |
| 55  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Measuring Device and Measuring Method for Cylindrical     | China     | 29 Dec 2020 | 202011594035.4    | Pending |
| 56  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Black Coatings  | China     | 06 Apr 2021 | ZL202110370178.5  | Granted |
| 57  | Yizheng Nahuan Technology Co., Ltd.          | Piston ring coating with excellent running-in performance | China     | 08 May 2021 | 202110500126.5    | Pending |

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|-----|---|--|-----------|-------------|------------------|---------|
| 58  | Nanofilm Technologies International Limited   | Improved Cathode Arc Source, Filters Thereof and Metho       | Europe    | 18 Jun 2021 | 4066272          | Granted |
| 59  | Nanofilm Technologies International Limited   | Improved Cathode Arc Source, Filters Thereof and Metho       | Japan     | 18 Jun 2021 | 7395761          | Granted |
| 60  | Nanofilm Technologies International Limited   | Improved Cathode Arc Source, Filters Thereof and Metho       | Singapore | 18 Jun 2021 | 11202251416K     | Granted |
| 61  | Nanofilm Technologies International Limited   | Improved Cathode Arc Source, Filters Thereof and Metho       | USA       | 18 Jun 2021 | 11903116         | Granted |
| 62  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Improved Cathode Arc Source, Filters Thereof and Metho       | China     | 18 Jun 2021 | ZL202110683431.2 | Granted |
| 63  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Coating Baffle   | China     | 30 Jun 2021 | 202110740570.4   | Pending |
| 64  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Double-Body Coating Machine                                  | China     | 30 Jun 2021 | 202110740569.1   | Pending |
| 65  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Coating Equipment  | China     | 08 Jul 2021 | 202110771536.3   | Pending |
| 66  | Sydrogen Energy Pte. Ltd.                     | Carbon Coated Hydrogen Fuel Cell Bipolar Plates              | Europe    | 14 Jul 2021 | EP4088332        | Granted |
| 67  | Sydrogen Energy Pte. Ltd.                     | Carbon Coated Hydrogen Fuel Cell Bipolar Plates              | Japan     | 14 Jul 2021 | 7313577          | Granted |
| 68  | Nanofilm Technologies International Limited   | Carbon Coated Hydrogen Fuel Cell Bipolar Plates              | Singapore | 14 Jul 2021 | 11202252047T     | Pending |
| 69  | Sydrogen Energy Pte. Ltd.                     | Carbon Coated Hydrogen Fuel Cell Bipolar Plates              | USA       | 14 Jul 2021 | 11855308         | Granted |
| 70  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Carbon Coated Hydrogen Fuel Cell Bipolar Plates              | China     | 14 Jul 2021 | 202110798362.X   | Pending |
| 71  | Yizheng Nahuan Technology Co., Ltd.           | Continuous fully automatic cleaning machine for piston ri    | China     | 23 Jul 2021 | ZL202110837595.6 | Granted |
| 72  | Yizheng Nahuan Technology Co., Ltd.           | Vacuum film removing machine for removing DLC film fro       | China     | 28 Jul 2021 | ZL202110855015.6 | Granted |
| 73  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Piston Rings and Methods of Manufacture                      | USA       | 12 Nov 2021 | CT/EP2021/08153  | Pending |
| 74  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Piston Rings and Methods of Manufacture                      | China     | 12 Nov 2021 | ZL202110360718.1 | Granted |
| 75  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Coating Rotating Carousel                                    | China     | 11 May 2022 | ZL202210514160.2 | Granted |
| 76  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Coating Rotating Carousel                                    | China     | 11 May 2022 | ZL202210514113.8 | Granted |
| 77  | Nanofilm Technologies International Limited   | Anti-Static Coating  | Singapore | 31 May 2022 | CT/EP2022/06481! | Pending |
| 78  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | Anti-Static Coating  | China     | 31 May 2022 | 202210639284.3   | Pending |
| 79  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | A glass flipping device for vertical coating and flipping me | China     | 25 Aug 2022 | 202211023245.7   | Pending |
| 80  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.  | A cleaning agent capable of improving color difference ar    | China     | 03 Nov 2022 | 2022113685266.0  | Pending |
| 81  | Yizheng Nahuan Technology Co., Ltd.           | A temperature resistance testing device for piston rings     | China     | 08 Dec 2022 | 202211581579.6   | Pending |
| 82  | Sydrogen Energy Pte. Ltd.                     | Fuel Cell Bipolar Plates                                     | Europe    | 29 Dec 2022 | 4399753          | Granted |
| 83  | Sydrogen Energy Pte. Ltd.                     | Fuel Cell Bipolar Plates                                     | Japan     | 29 Dec 2022 | CT/EP2022/088004 | Pending |
| 84  | Sydrogen Energy Pte. Ltd.                     | Fuel Cell Bipolar Plates                                     | Singapore | 29 Dec 2022 | CT/EP2022/088004 | Pending |
| 85  | Sydrogen (Shanghai) Technology Co., Ltd.      | Fuel Cell Bipolar Plates                                     | China     | 29 Dec 2022 | 202211710455.3   | Pending |
| 86  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.; | Improvements in Carbon Coated Electrodes                     | China     | 18 Jan 2023 | ZL202310063345   | Granted |
| 87  | Nanofilm Technologies International Limited   | Carbon Coated Electrodes                                     | Europe    | 20 Jan 2023 | 4281601          | Granted |

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| 88  | Nanofilm Technologies International Limited    | Carbon Coated Electrodes                                      | Japan     | 20 Jan 2023 | 7558429          | Granted |
| 89  | Nanofilm Technologies International Limited    | Carbon Coated Electrodes                                      | Singapore | 20 Jan 2023 | 11202305750R     | Granted |
| 90  | Nanofilm Technologies International Limited    | Carbon Coated Electrodes                                      | USA       | 20 Jan 2023 | 11898257         | Granted |
| 91  | Sydrogen (Shanghai) Technology Co., Ltd.       | An electrochemical testing device                             | China     | 17 Feb 2023 | 202310134443.9   | Pending |
| 92  | Yizheng Nahuan Technology Co., Ltd.            | A clamping device for piston ring coating                     | China     | 27 Mar 2023 | 202310301761.X   | Pending |
| 93  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.   | Inline coating apparatus for metallic fuel cell bipolar plate | China     | 04 May 2023 | 202310492029.5   | Pending |
| 94  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.   | An auxiliary cathode device for glow-discharge coating ar     | China     | 18 Jul 2023 | 202310885329.X   | Pending |
| 95  | Nanofilm Technologies International Limited    | Hollow cathode arc plasma device                              | Europe    | 27 Oct 2022 | 4362058          | Granted |
| 96  | Nanofilm Technologies International Limited    | Hollow cathode arc plasma device                              | WIPO      | 04 Oct 2023 | CT/EP2023/07748  | Pending |
| 97  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd.   | Hollow cathode arc plasma device                              | China     | 10 Oct 2023 | 202311306969.7   | Pending |
| 98  | Nanofilm Technologies International Limited    | Sealed electrical devices                                     | WIPO      | 03 Nov 2023 | PCT/EP2023/08070 | Pending |
| 99  | Nanofilm Technologies International Limited an | Coated solar cell   | WIPO      | 03 Nov 2023 | CT/EP2023/08071  | Pending |
| 100 | Nanofilm Technologies International Limited an | Improved CSS deposition process                               | WIPO      | 19 Jan 2024 | CT/EP2024/051234 | Pending |
| 101 | Yizheng Nahuan Technology Co., Ltd.            | Automatic feeding device based on piston ring DLC honin       | China     | 08 Jan 2024 | 202410022662.2   | Pending |

(updated 2024-10-15)

## UTILITY MODELS (实用新型专利)

| S/N | REGISTERED OWNER                             | TITLE   | TERRITORY | FILING DATE | PATENT NO.       | STATUS  |
|-----|--|---|-----------|-------------|------------------|---------|
| 1   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A vacuum coating apparatus for a nanometer anti-finger      | China     | 26 Feb 2016 | ZL201620144366.0 | Granted |
| 2   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A large vacuum coating apparatus producing diamond th       | China     | 30 Dec 2016 | ZL201621474910.4 | Granted |
| 3   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A novel type of diamond thin-film                           | China     | 30 Dec 2016 | ZL201621487788.4 | Granted |
| 4   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating shielding jig for watchcase                         | China     | 30 Jul 2019 | ZL201921212034.1 | Granted |
| 5   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Quick feeding tool of coating clamp                         | China     | 30 Jul 2019 | ZL201921212037.5 | Granted |
| 6   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Test device capable of cyclically simulating ball head batt | China     | 30 Jul 2019 | ZL201921212047.9 | Granted |
| 7   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating film shielding jig for product with screw teeth     | China     | 30 Jul 2019 | ZL201921212595.1 | Granted |
| 8   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating jig capable of improving coating uniformity         | China     | 30 Jul 2019 | ZL201921212613.6 | Granted |
| 9   | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Flat valve machining equipment with riveting and air tigh   | China     | 07 Aug 2019 | ZL201921271011.8 | Granted |
| 10  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Efficient air drying equipment                              | China     | 07 Aug 2019 | ZL201921270512.4 | Granted |
| 11  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | High-temperature-resistant detection equipment for auto     | China     | 07 Aug 2019 | ZL201921270491.6 | Granted |

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|-----|--|---|-----------|------------------------------|---------|
| 12  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Automatic bottle taking detection equipment                   | China     | 07 Aug 2019 ZL201921271008.6 | Granted |
| 13  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Automatic packaging machine                                   | China     | 07 Aug 2019 ZL201921270485.0 | Granted |
| 14  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A coating jig   | China     | 25 Nov 2020 ZL202022754870.1 | Granted |
| 15  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A coating jig   | China     | 25 Nov 2020 ZL202022764051.5 | Granted |
| 16  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A coating jig   | China     | 25 Nov 2020 ZL202022754917.4 | Granted |
| 17  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A coating jig   | China     | 11 Dec 2020 ZL202022988894.3 | Granted |
| 18  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A coating jig   | China     | 11 Dec 2020 ZL202022987993.X | Granted |
| 19  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Contact resistance testing device                             | China     | 11 Dec 2020 ZL202022988402.0 | Granted |
| 20  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Device for detecting rotation performance of rotation me      | China     | 29 Dec 2020 ZL202023254272.4 | Granted |
| 21  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Measuring device for cylindrical target                       | China     | 29 Dec 2020 ZL202023254271.X | Granted |
| 22  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating Baffle  | China     | 30 Jun 2021 ZL202121476762.0 | Granted |
| 23  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Double-Body Coating Machine                                   | China     | 30 Jun 2021 ZL202121476761.6 | Granted |
| 24  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating Equipment   | China     | 08 Jul 2021 ZL202121545740.5 | Granted |
| 25  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A percussion experiment device                                | China     | 11 May 2022 ZL202221132543.5 | Granted |
| 26  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A contact resistance automatic test equipment                 | China     | 11 May 2022 ZL202221128098.5 | Granted |
| 27  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A liquid evaporation coating device                           | China     | 11 May 2022 ZL202221132534.6 | Granted |
| 28  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A rotating holder testing device                              | China     | 11 May 2022 ZL202221132507.9 | Granted |
| 29  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating Rotating Frame  | China     | 11 May 2022 ZL202221132458.9 | Granted |
| 30  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating Rotating Frame  | China     | 11 May 2022 ZL202221176799.6 | Granted |
| 31  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A glass flipping device for vertical vacuum coating           | China     | 25 Aug 2022 ZL202222239812.4 | Granted |
| 32  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | A coating jig for tiny electronic products                    | China     | 03 Nov 2022 ZL202222922370.3 | Granted |
| 33  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Inline coating apparatus for metallic fuel cell bipolar plate | China     | 04 May 2023 ZL202321040504.7 | Granted |
| 34  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | An anode layer ion source and its cathodic shield             | China     | 04 May 2023 ZL202321040525.9 | Granted |
| 35  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | An auxiliary cathode for glow-discharge coating and coati     | China     | 18 Jul 2023 ZL202321895198.5 | Granted |
| 36  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating fixtures and cleaning devices                         | China     | 24 Oct 2023 ZL202322864538.4 | Granted |
| 37  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Fabric coating fixture  | China     | 24 Oct 2023 ZL202322861819.4 | Granted |
| 38  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating device  | China     | 09 Nov 2023 ZL202323037511.4 | Granted |
| 39  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Gradient color coatings                                       | China     | 24 Nov 2023 ZL202323193956.1 | Granted |
| 40  | Nanofilm Vacuum Coating (Shanghai) Co., Ltd. | Coating device and coating equipment                          | China     | 24 Nov 2023 ZL202323198457.1 | Granted |
| 41  | Yizheng Nahuan Technology Co., Ltd.          | Waste liquid collecting tank for cleaning piston rings        | China     | 22 Jul 2021 ZL202121678094.X | Granted |

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|-----|--|---|-----------|-------------|------------------|---------|
| 42  | Yizheng Nahuan Technology Co., Ltd.      | Multi-groove cleaning machine for piston ring coating       | China     | 22 Jul 2021 | ZL202121677773.5 | Granted |
| 43  | Yizheng Nahuan Technology Co., Ltd.      | Cleaning jig for cleaning piston rings                      | China     | 22 Jul 2021 | ZL202121676728.8 | Granted |
| 44  | Yizheng Nahuan Technology Co., Ltd.      | Piston ring cleaning machine capable of realizing cyclic ut | China     | 23 Jul 2021 | ZL202121685528.9 | Granted |
| 45  | Yizheng Nahuan Technology Co., Ltd.      | Vacuum drying device for cleaning piston rings              | China     | 23 Jul 2021 | ZL202121685429.0 | Granted |
| 46  | Yizheng Nahuan Technology Co., Ltd.      | Piston ring feeding mechanism for vacuum coating machi      | China     | 09 Aug 2021 | ZL202121856789.2 | Granted |
| 47  | Yizheng Nahuan Technology Co., Ltd.      | Piston ring vacuum coating machine with vacuum degree       | China     | 09 Aug 2021 | ZL202121850444.6 | Granted |
| 48  | Yizheng Nahuan Technology Co., Ltd.      | Vacuum coating machine capable of uniformly coating pi      | China     | 09 Aug 2021 | ZL202121865988.X | Granted |
| 49  | Yizheng Nahuan Technology Co., Ltd.      | Transfer device for piston ring DLC vacuum coating          | China     | 11 Aug 2021 | ZL202121875050.6 | Granted |
| 50  | Yizheng Nahuan Technology Co., Ltd.      | Coating jig for piston ring DLC vacuum coating              | China     | 11 Aug 2021 | ZL202121876624.1 | Granted |
| 51  | Yizheng Nahuan Technology Co., Ltd.      | Fixing jig for piston ring vacuum coating                   | China     | 02 Sep 2021 | ZL202122102791.7 | Granted |
| 52  | Yizheng Nahuan Technology Co., Ltd.      | Driving power assembly for vacuum coating machine           | China     | 02 Sep 2021 | ZL202122102709.0 | Granted |
| 53  | Yizheng Nahuan Technology Co., Ltd.      | Cooling system assembled on vacuum coating machine          | China     | 02 Sep 2021 | ZL202122112076.1 | Granted |
| 54  | Yizheng Nahuan Technology Co., Ltd.      | Piston ring coating machine with intelligent temperature    | China     | 03 Sep 2021 | ZL202122112037.1 | Granted |
| 55  | Yizheng Nahuan Technology Co., Ltd.      | Insulation pre-detection device for vacuum coating mach     | China     | 03 Sep 2021 | ZL202122126966.8 | Granted |
| 56  | Yizheng Nahuan Technology Co., Ltd.      | Polishing device for piston ring machining                  | China     | 03 Nov 2022 | ZL202222921685.6 | Granted |
| 57  | Yizheng Nahuan Technology Co., Ltd.      | Vacuumizing device of piston ring coating machine           | China     | 03 Nov 2022 | ZL202222920647.9 | Granted |
| 58  | Yizheng Nahuan Technology Co., Ltd.      | Spraying mechanism for cleaning piston rings                | China     | 04 Nov 2022 | ZL202222933770.4 | Granted |
| 59  | Yizheng Nahuan Technology Co., Ltd.      | A coating device for piston rings                           | China     | 05 Dec 2022 | ZL202223243749.8 | Granted |
| 60  | Yizheng Nahuan Technology Co., Ltd.      | A fixture for piston ring vacuum coating                    | China     | 09 Dec 2022 | ZL202223299761.0 | Granted |
| 61  | Yizheng Nahuan Technology Co., Ltd.      | Air cooling assembly for vacuum coating machine             | China     | 10 Apr 2023 | ZL202320760645.X | Granted |
| 62  | Yizheng Nahuan Technology Co., Ltd.      | Fixture used in piston ring coating preparation             | China     | 13 Oct 2023 | ZL202322750909.6 | Granted |
| 63  | Yizheng Nahuan Technology Co., Ltd.      | Vacuum coating equipment with filtering device              | China     | 13 Oct 2023 | ZL202322760219.9 | Granted |
| 64  | Yizheng Nahuan Technology Co., Ltd.      | cathode arc device for preparation of cathode arc coating   | China     | 04 Jan 2024 | ZL202420017112.7 | Granted |
| 65  | Sydrogen (Shanghai) Technology Co., Ltd. | A three-electrode cell device                               | China     | 17 Feb 2023 | ZL202320252312.6 | Granted |
| 66  | Sydrogen (Shanghai) Technology Co., Ltd. | A device for testing the strength of welding joints         | China     | 17 Feb 2023 | ZL202320239052.9 | Granted |
| 67  | Sydrogen (Shanghai) Technology Co., Ltd. | A coating fixture   | China     | 23 Aug 2023 | ZL202322284088.1 | Granted |
| 68  | Sydrogen (Shanghai) Technology Co., Ltd. | A coating fixture   | China     | 23 Aug 2023 | ZL202322278269.3 | Granted |
| 69  | Sydrogen (Shanghai) Technology Co., Ltd. | A vacuum drying device                                      | China     | 23 Aug 2023 | ZL202322278887.8 | Granted |
| 70  | Sydrogen (Shanghai) Technology Co., Ltd. | Testing device  | China     | 27 Sep 2023 | ZL202322645827.5 | Granted |

(updated 2024-10-15)