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Design Story

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Innovation milestones



DVM is leading technology brand in VRF industry.

We have invented innovative features and developed them as our identity.

Competitors are following our legacy techs to improve their models.

Now! It's time to meet whole new series of

DVM S2



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Background of New DVM S2











Global warming is defined as

The phenomenon of increasing average air temperature near the surface of earth over the past one to two centuries.

CO₂ causes 80% of the air temperature raise. This is why advanced countries and organizations have bold target to

reduce emission of CO2.

It is necessary to use high efficiency product that consumes less energy and emits less CO₂.

For that, here we present the next generation of VRF.

* Reference : homepage of Encyclopedia Britannica







Background of New DVM S2

The reduction of energy consumption and usage is inevitable.

Energy regulations and standards continue to become stricter for manufacturers, and this trend will continue for a long time.

For example, if you observe South Korea's 1st Grade Standard, you can see it is on the rise.





Background of New DVM S2









Product Details

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New Logo

DVM S2 start with a new logo to suit the innovative product.

DVM S2 Wind Free™ Digital Variable Multi Compatible

We start with a new logo for DVM S2 that clearly differentiates our product from other brands. Our products are WindFree[™] compatible, which is another key technology and core product line for Samsung. DVM S2 products contain active frequency control technology that allows it to be fully compatible with WindFree[™] products, and it can be connected to up to 64 indoor devices.



POD & Features

Solution for All



\Box Core POD

- Energy Efficiency
- · Active Al
- [•] Refrigerant Reduction
- · Advanced Flash Injection

□ Reliability

- · Robust Frame
- Silent Operation
- Durafin[™] Ultra
- · Anti-Rust Cabinet
- [•] Dual Cooling Heat Sink
- Direct Drain Structure

Installation Flexibility

- · Compact Foot Print
- [•] Wider Operating Temperature Range
- [•] 110Pa External Static Pressure
- [•] Better Freight
- · Center of Gravity

□ Service & Maintenance

- Emergency Operation
- System Diagnosis
- * Easy Front Panel
- Modular Design

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POD & Features _ Core POD

Here I Come !

You are watching the Brand New VRF ever.

We prepared so many new features for you.

Enjoy the DVM S2!







M 52 SAMSUNG **Core POD** 🗹 Top Class Energy Efficiency Active Al • DVM S2 will maintain the highest energy efficiency · Active AI function will gives customers more benefits during the platform operation period Active Comfort **Energy Saving** Stability Refrigerant Low High Defrost Pressure Pressure Leak Control Control Detection 2 3 Advanced Flash Injection **Refrigerant reduction** \checkmark \checkmark • Refrigerant reduction and pipe diameter · Providing more powerful heating even under extremely scale down will give the benefit to installer cold weather Heating T Capacity Max. REFRIGERANT * **15** 30% **-25**⁰C Available Confidential Internal Use Only



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Top Class Energy Efficiency





Top Class Energy Efficiency







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Top Class Energy Efficiency





Top Class Energy Efficiency





Top Class Energy Efficiency



New High Efficiency Fan

📆 Effect of Multi Serration Fan

- I . Core POD
- Energy Efficiency

POD & Features

- Active AI
- Ref. Reduction
- Flash Injection
- II . Reliability
- III. Install Flexibility
- IV . Service & Maintenance





Multi Serration Shape

* Considering the air velocity, the edge of the

blade is small serration, and the inside is



DVM S2 mount New Multi Serration fan, it improve Energy Efficiency with less power consumption





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Top Class Energy Efficiency



* IGBT shape can be vary by models.



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Top Class Energy Efficiency







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Active Al





Active Al







Active Al

AI Defrost Control



I. Core POD

- Energy Efficiency
- Active Al
- Ref. Reduction
- Flash Injection
- II . Reliability
- III. Install Flexibility
- IV . Service & Maintenance





Active Al

POD & Features

• Energy Efficiency

I. Core POD

• Active AI







DVM S2 performs a unique refrigerant leak detection based on advanced algorithms





Refrigerant Reduction





Refrigerant Reduction



* Installation condition : 26HP outdoor unit, liquid pipe length 30m

* Refrigerant, Copper tube costs are based on Netherland market price on Nov. 2020.



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Advanced Flash Injection

POD & Features

I. Core POD

- Energy Efficiency
- Active Al
- Ref. Reduction
- Flash Injection
- II . Reliability
- III. Install Flexibility
- IV. Service & Maintenance

Low temperature heating technology continuing to evolve

- Samsung continues to develop specialized technologies for low temperature heating performance to provide customers with optimal comfort when heating



Advanced Flash Injection





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POD & Features _ Reliability

You can trust

Definitely you know the brand Samsung. Smartphones, Semiconductors, TV and etc...

Offers you Superior quality, best service and reasonable price...

Everything you expect from Samsung, DVM S2 is there for you, too.







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Robust Frame

POD & Features DVM S2 has super strong body frame - The core structure has been reinforced much more than conventional model I. Core POD II. Reliability 4-Side Edge **Beam Structure** Robust Frame • Silent Operation DVM S2 Conventional DVM S2 • Corrosion Resistance Thickness Thickness ■ Durafin[™] Ultra 0.8mm 1.Omm • Dual Heat Sink Drain Structure * Cross-sectional view of Cabinet-Side * Cross-sectional view of Motor-Bracket **III**. Install Flexibility Stiffness 210% better Stiffness 130% IV. Service & Maintenance Leg **Base Leg Structure** DVM S2 Assembly Stiffness 9% Comparing to conventional model

* The center of gravity is in the middle of 3 assembly points which makes the frame stable from the bottom.

* Stiffness is simulated by structural analysis on NX NASTRAN software using moment of inertia.

* Moment of inertia : product of mass of section and the square of the distance between the reference axis and the centroid of the section .



Robust Frame

POD & Features

I. Core POD

- II . Reliability
- Robust Frame
- Silent Operation
- Corrosion Resistance
- □ Durafin[™] Ultra
- Dual Heat Sink
- Drain Structure
- III. Install Flexibility
- IV. Service & Maintenance

Based on the reinforced structure, we designed it to endure strong earthquake

Just see it for yourself. (This video clip is under condition of above earth quake Richter Scale of #9.)



* Tested in SGS Korea Co., Ltd. * Test Method : ICC ES AC156 : 2010 (Sps=2.5g, z/h=1)



Silent Operation





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SAMSUNG DVM S2

Silent Operation

POD & Features

I. Core POD

II. Reliability

- Bobust Frame
- Silent Operation
- Corrosion Resistance
- □ Durafin[™] Ultra
- Dual Heat Sink
- Drain Structure
- III. Install Flexibility
- IV. Service & Maintenance

💙 New Fan & Heat Exchanger

Vortex minimize by multi serration fan and larger surface area of heat exchanger also reduces resistance of air flow and reduce noise









Corrosion Resistance test Verified by TÜV Rheinland



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DVM S2

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Durafin[™] Ultra

DVM S2 "Durafin™ Ultra" verified by TÜV Rheinland **POD & Features** I. Core POD "Durafin[™] Ultra" is the superior anti-corrosion heat exchanger fin of DVM S2. It is a new naming originated from the word durable. II. Reliability Durafin[™] Ultra This strong heat exchanger passed 3,000hr of Salt Spray Test(SST/ISO 9227), 1,800hr of Cyclic Corrosion Robust Frame Anti-corrosion Test(CCT/ISO 14993) and 840hr of severe industrial environment test (ISO 21207, Method B) which TÜV • Silent Operation Rheinland has verified. Corrosion Resistance ■ Durafin[™] Ultra Dual Heat Sink ISO 9227, SST Drain Structure **III**. Install Flexibility 3,000hr test passed IV. Service & Maintenance **Coating layers** ISO 14993, CCT ****** 1,800hr test passed Hydrophilic Layer (Acrylic Resin) **Corrosion Proof Layer** (Epoxy Acrylic) ISO 21207, Method B Aluminum Fin 840hr test passed * Corrosion condition can be vary to the site where outdoor unit is installed.



Dual Heat Sink

DVM S2 mount 3rd generation Heat Sink **POD & Features** - New dual cooling heat sink realizes 50°C cooling operation I. Core POD II. Reliability 3rd Generation Robust Frame • Silent Operation Copper tube insert Aluminum die-casting • Corrosion Resistance + air cooling fin type ■ Durafin[™] Ultra Dual Heat Sink 2nd Generation Air Drain Structure Copper tube insert Cool Refrigerant aluminum die-casting type **III**. Install Flexibility Cool IV. Service & Only Maintenance 1st Generation **Refrigerant Cool** Tube Insert Copper tube press fit type Aluminum Only **Refrigerant Cool Tube Press** Aluminum * Heatsink shape can be vary by models.



Improved Drain Structure

Designed to have a much larger drain hole area than before

I. Core POD

II. Reliability

- Robust Frame
- Silent Operation

POD & Features

- · Corrosion Resistance
- Durafin[™] Ultra
- Dual Heat Sink
- Drain Structure
- III. Install Flexibility
- IV. Service & Maintenance



* Comparing model : AM100JXVHGH/ET, AM100AXVGGH/EU



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POD & Features _ Installation

You'll like it

It's ok, if you are in hot or cold region.

It's ok, if you have lack of space.

It's ok, if you think it's hard to install an air conditioner

It's ok. It's DVM S2.





Small Foot Print







Operation Range

POD & Features

I. Core POD

Expand the operating temperature range

- The range of cooling temperature has been expanded than before(48 °C \rightarrow 50 °C), and it's wider than competitors



** If the indoor temperature is lower than 15°C, it can work in heating mode but it cannot operate continuously due to a protection control.



SAMSUNG DVM 52

Extended Static Pressure







Better Freight

POD & Features

Improved cargo loading performance

- Thanks to improved packing size, more product could be loaded in limited space









POD & Features _ Service & Maintenance

It's yummy & cozy

Installation and maintenance gets more easier with DVM S2

So many new features are coming for your convenience.

With DVM S2,

everything is so Piece of Cake!





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Emergency operation

POD & Features

Upgraded emergency operation

- Only 1 normal compressor in the whole system will still operated





SAMSUNG VM 52 SAMSUNG

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System Diagnosis

POD & Features

I. Core POD II. Reliability

IV. Service &

III. Install Flexibility

System Diagnosis • Easy Front Panel

• Modular Design

Maintenance • EmergencyOperation

On-device Inverter Check[™]

- Simply pressing buttons can check the failure of inverter driver.





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Easy front panel







- EmergencyOperation
- System Diagnosis
- Easy Front Panel
- Modular Design



- The structure of the front panel has been changed so that product installation or service workability is better



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Modular Design

POD & Features Innovative product design by QMD - DVM S2 was designed based on our own innovative QMD, I. Core POD which reduced the number of modules by 40% and number of service parts by 23% II. Reliability **III**. Install Flexibility Benefit of QMD IV. Service & Too many kinds of part, Maintenance module & module combinations Number of service Number of modules • EmergencyOperation components System Diagnosis 23% 40% • Easy Front Panel • Modular Design 282 N [EA] N [EA] N [EA] 50 N [EA] N [EA] 216 30 EA EA ΕA ΕA Maximize the combination efficiency with the best parts DVM S2 Previous DVM S2 Previous % Model series compared to AM***JXVHGH/ET vs AM***AXVGGH/EU You can increase your N* [EA] *N [EA] N* [EA] N* [EA] N* [EA] warehouse efficiency! X minimizing the combination can directly affect the reliability of the product









Appendix

Product Image

Classification	Front View	Front View (Cabinet Opened)	ISO View
DVM S2 Small Chassis		SAMSURD	
DVM S2 Large Chassis			
DVM S2 X-Large Chassis	DVH S2, Whofkee*	-	SARSUNO DIMER WARDS

% For high resolution image, please contact Samsung PVI web site.





Appendix

Logos, Trade Marks to help you



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