

Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

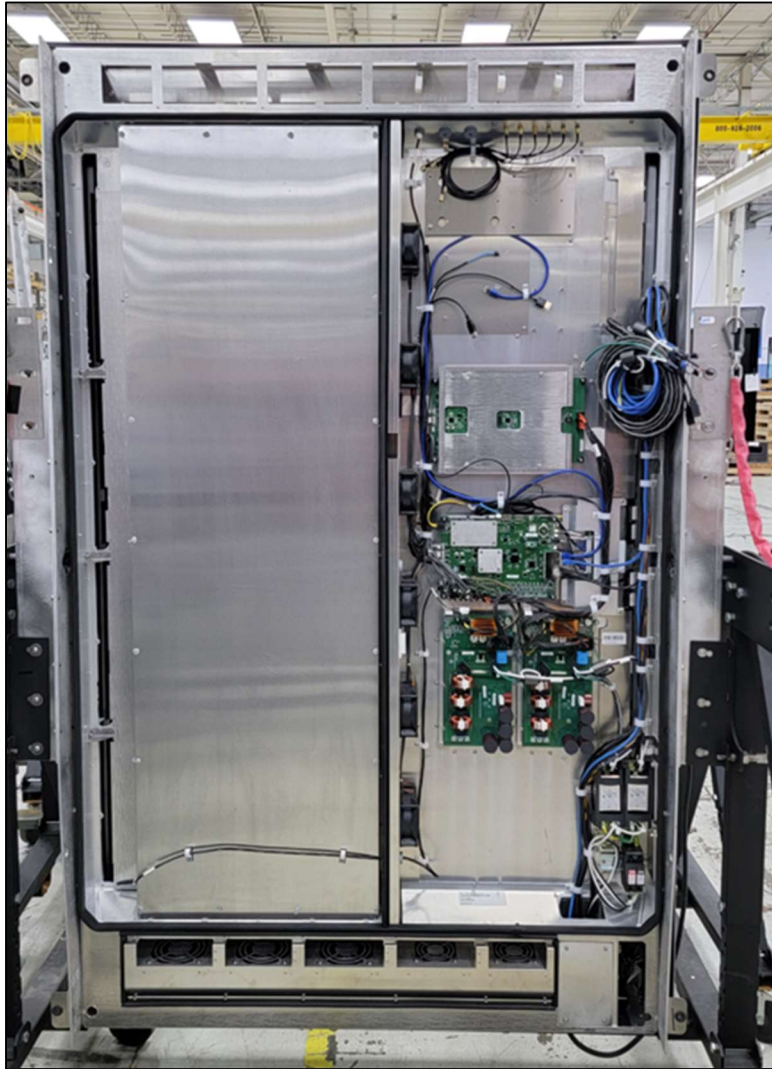
Analysis of MRI 75" and 86" Outdoor Display Products
Claim Chart for U.S. Patent No. 9,629,287

MRI Large Format (75" and 86") Outdoor Displays:



Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

Interior view of MRI Large Format Outdoor Displays:



Views from Top:

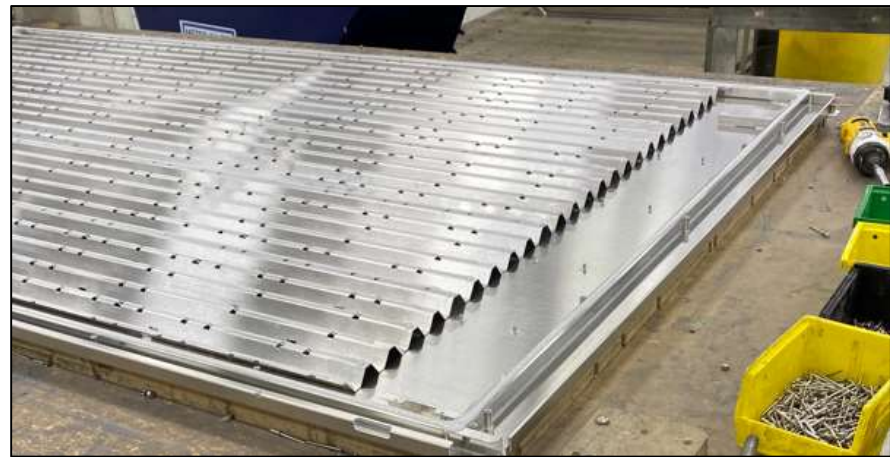


View of Bottom:



Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

Backlight Assembly*:



*Photos depict exemplary components and construction of MRI displays.

Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

The electronic display has multiple components, including the LED backlight.*



Optical elements (films) are located between the LED backlight and the LCD cell:



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Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

LCD cells (glass layers separated by LCD fluid) are placed adjacent to these optical elements*:



When the LED backlight is operational, the LCD cell can generate color displays:

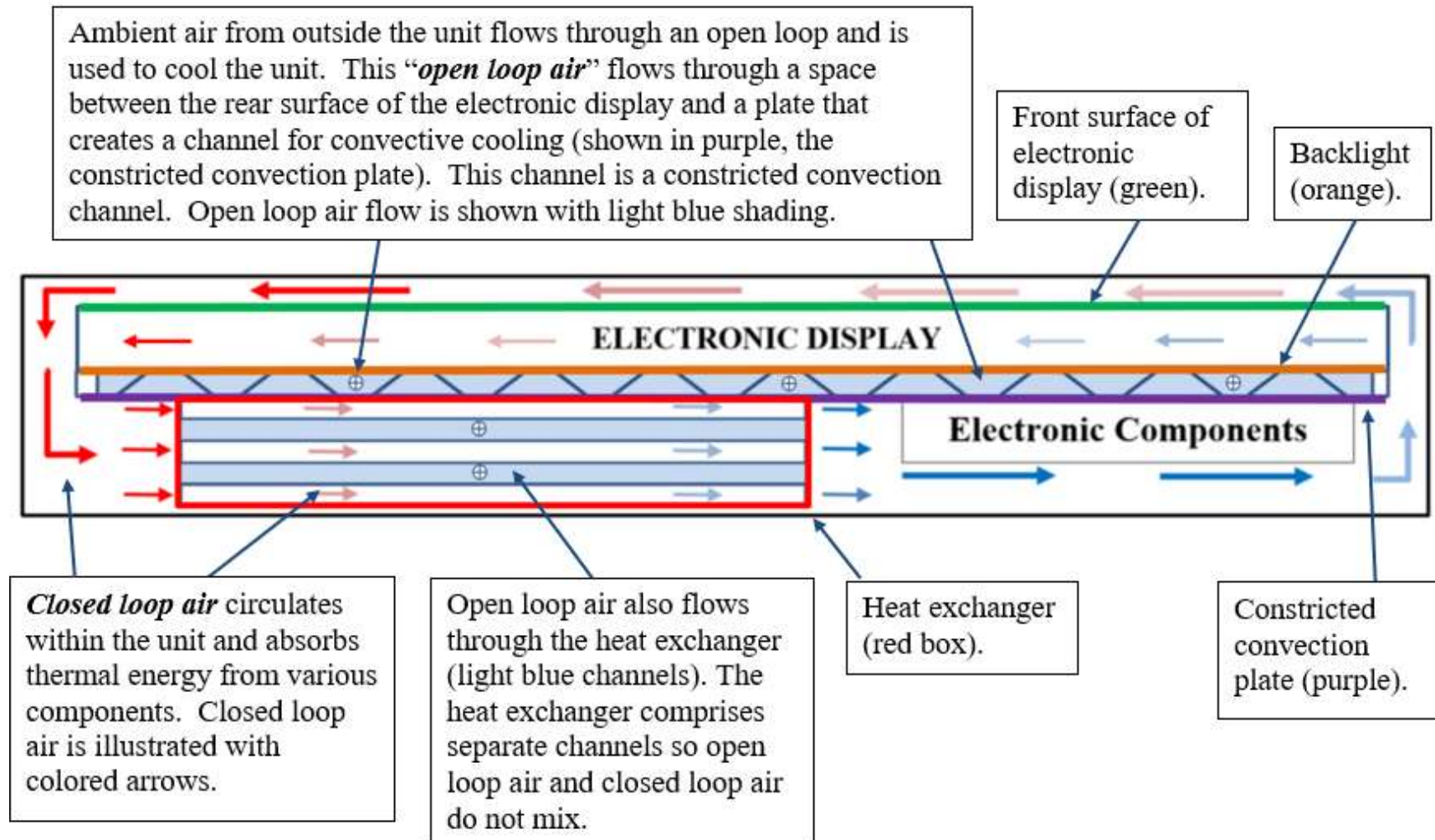


*Photos depict exemplary components and construction of MRI displays.

Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

Schematic of Airflow within unit (1 of 2):

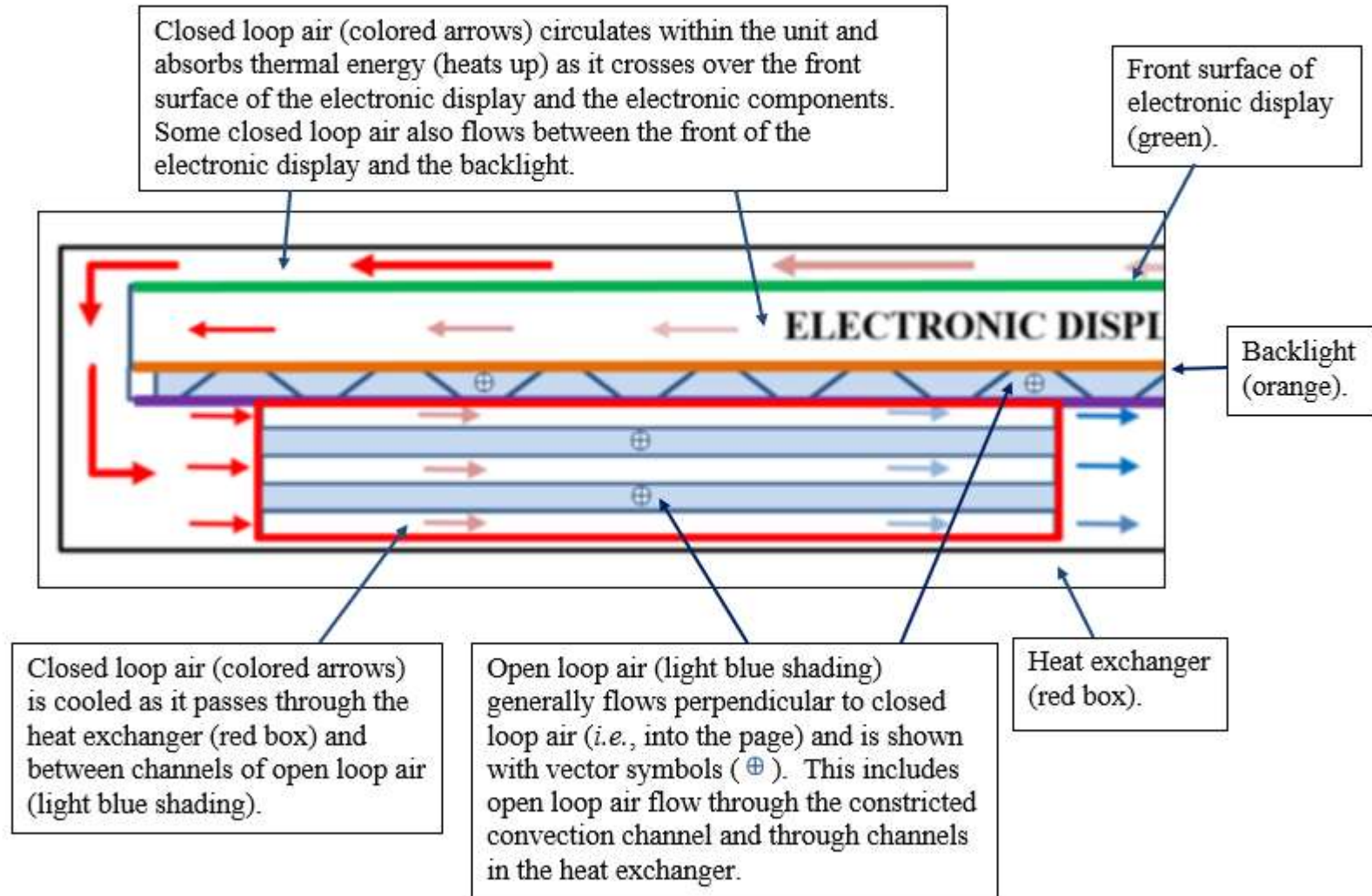
View from Top of Display:



Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

Schematic of Airflow within unit (2 of 2):

View from Top of Display:



Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

Interior view of MRI Large Format Displays:

Cool, open loop
(ambient) air enters
the unit from the top
(light blue arrows).

Heat exchanger.

Cool, open loop air absorbs
thermal energy as it passes
through the heat exchanger
and through the constricted
convection channel.

Heated open loop air
exits the unit at the
bottom and removes
heat from the unit
(red arrows).



Constricted
convection
plate.

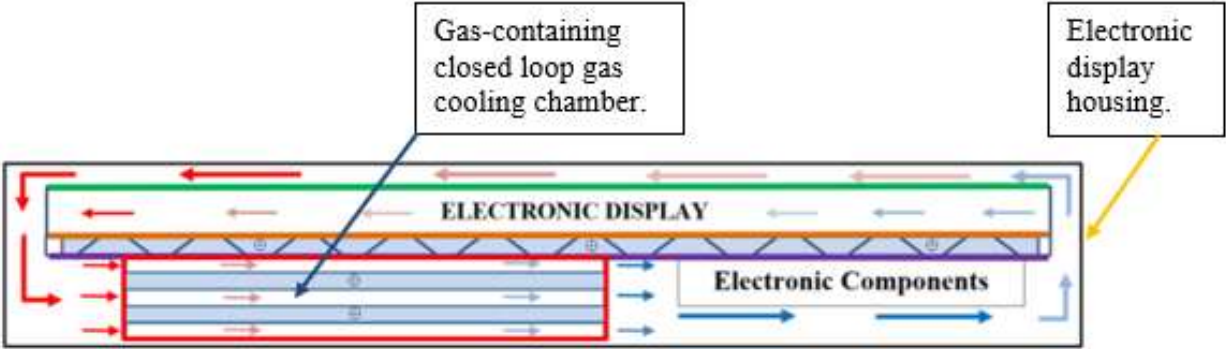
Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

'287 patent, claim:	Product: MRI Large Format Displays (75" & 86")
1. An electronic display assembly comprising:	MRI's large format outdoor displays comprise an electronic display assembly.  

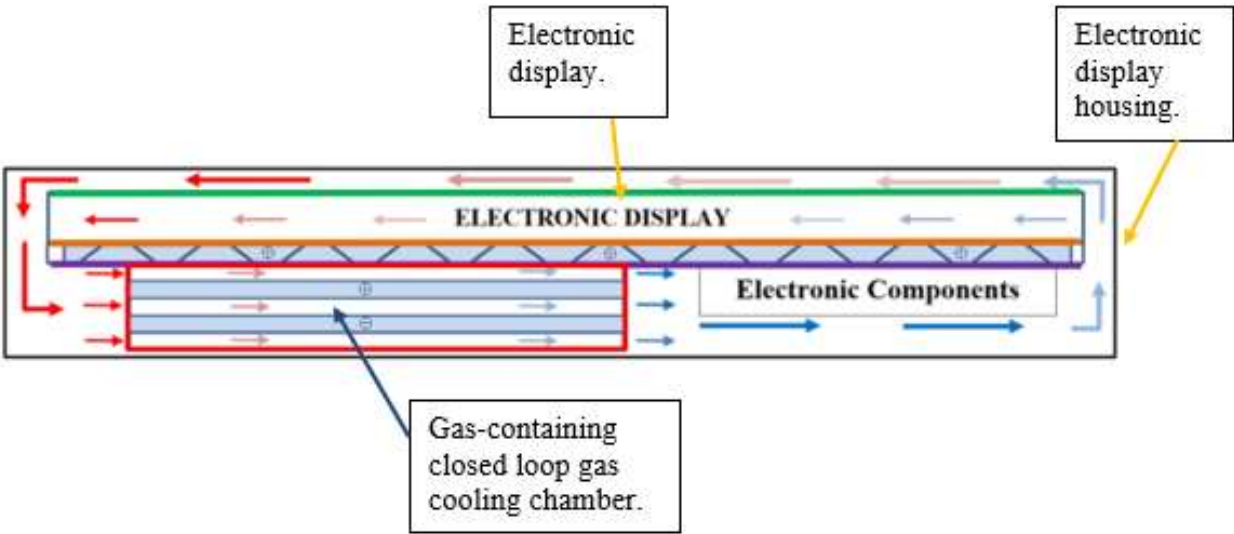
Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

'287 patent, claim:	Product: MRI Large Format Displays (75" & 86")
[1a] an electronic display housing;	MRI's large format outdoor displays comprise an electronic display housing. The electronic displays are contained with an electronic display housing as shown below. 

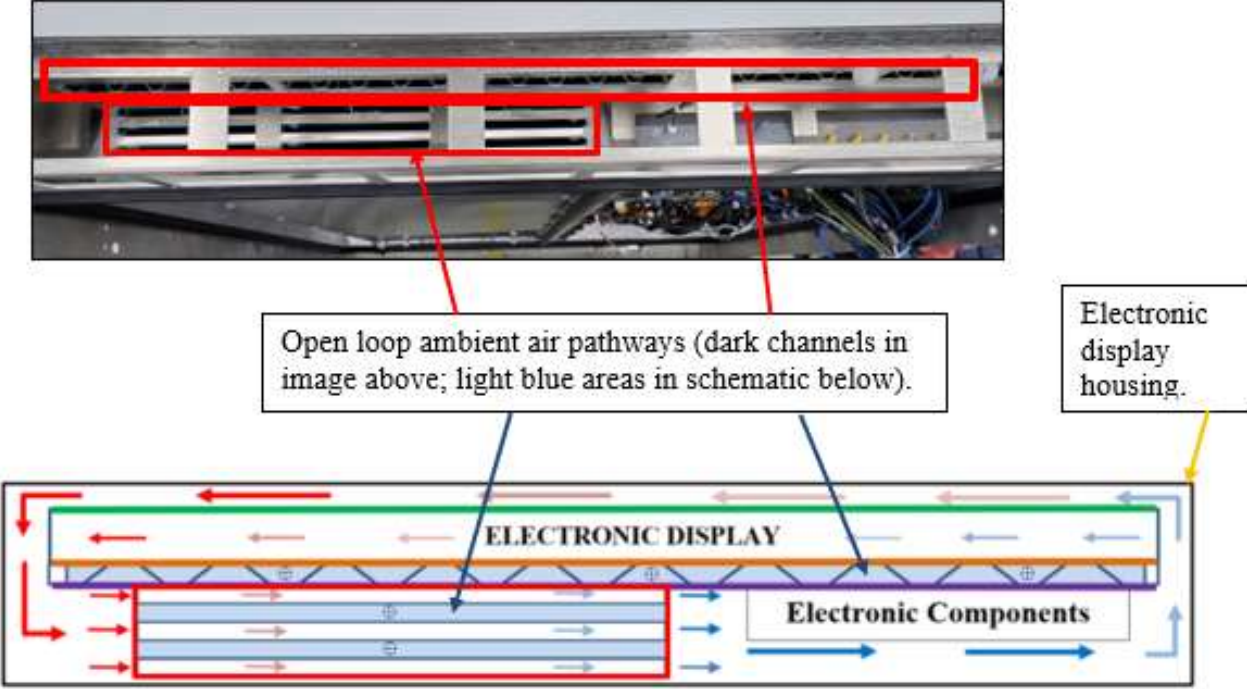
Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

'287 patent, claim:	Product: MRI Large Format Displays (75" & 86")
[1b] a gas-containing closed loop gas cooling chamber located within the electronic display housing;	MRI's large format outdoor displays comprise a gas-containing closed loop gas cooling chamber located within the electronic display housing. The gas-containing closed loop gas cooling chamber is highlighted with the arrows in the schematic below.  The schematic diagram illustrates the internal components of an MRI large format outdoor display. It shows a rectangular 'Electronic display housing' containing an 'ELECTRONIC DISPLAY' and 'Electronic Components'. A 'Gas-containing closed loop gas cooling chamber' is depicted within the housing, highlighted by a red border and red arrows indicating a clockwise flow. The cooling chamber is positioned below the electronic display and above the electronic components. A yellow arrow points from the 'Electronic display housing' label to the outer boundary of the housing. A blue arrow points from the 'Gas-containing closed loop gas cooling chamber' label to the red-bordered chamber. The electronic display is shown with horizontal lines and arrows, and the electronic components are shown as a block with arrows indicating flow.

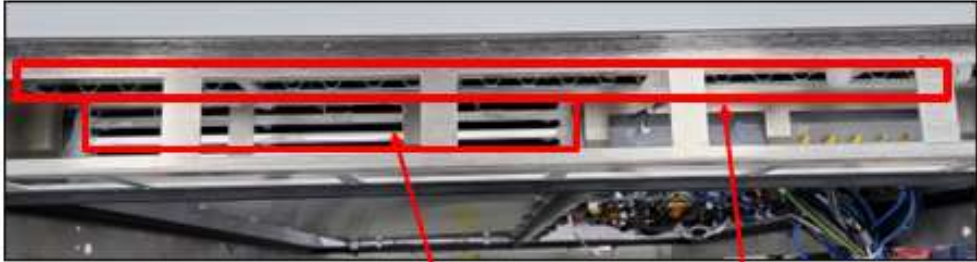
Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

'287 patent, claim:	Product: MRI Large Format Displays (75" & 86")
[1c] an electronic display positioned within the electronic display housing but outside of the closed loop gas cooling chamber; and	MRI's large format outdoor displays comprise an electronic display positioned within the electronic display housing but outside of the closed loop gas cooling chamber.  The diagram illustrates the internal structure of an MRI large format outdoor display. It shows a rectangular 'Electronic display housing' containing an 'ELECTRONIC DISPLAY' and 'Electronic Components'. A 'Gas-containing closed loop gas cooling chamber' is located below the display. Arrows indicate the flow of gas: red arrows show a clockwise loop on the left side, blue arrows show a clockwise loop on the right side, and green arrows show a horizontal flow across the top. The cooling chamber is depicted with a series of parallel horizontal tubes.

Ex. 35: Claim Chart for U.S. Patent No. 9,629,287
MRI 75" & 86" Units

'287 patent, claim:	Product: MRI Large Format Displays (75" & 86")
[1d] an open loop ambient air pathway through the electronic display housing;	MRI's large format outdoor displays comprise an open loop ambient air pathway through the electronic display housing. The entrance to the open loop ambient air pathway is shown from the top and highlighted in blue in the schematic.  Open loop ambient air pathways (dark channels in image above; light blue areas in schematic below). Electronic display housing. ELECTRONIC DISPLAY Electronic Components

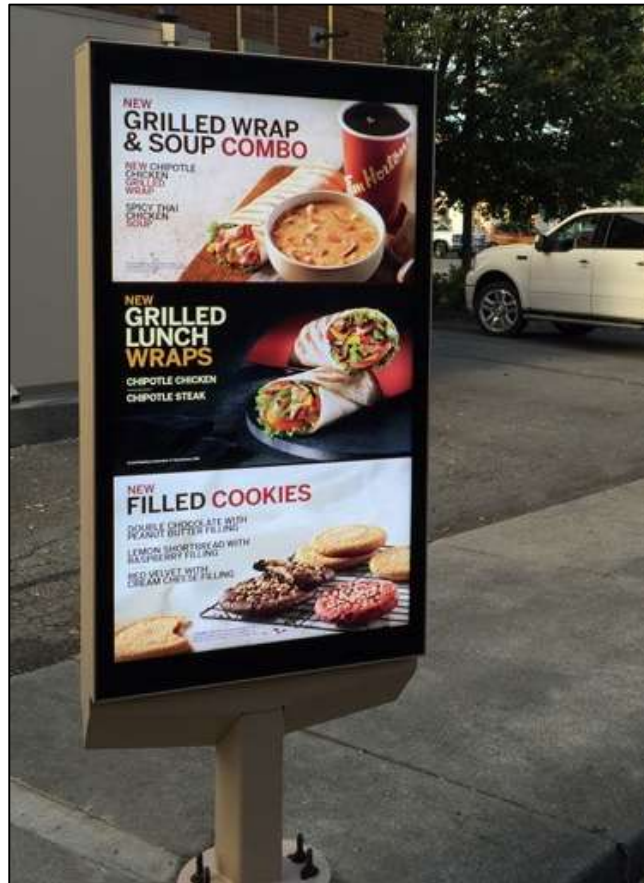
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MRI 75" & 86" Units

'287 patent, claim:	Product: MRI Large Format Displays (75" & 86")
[1e] wherein the electronic display is coolable by a combination of gas circulation within the closed loop gas cooling chamber and ambient air flow through the open loop ambient air pathway in the electronic display housing.	MRI's large format outdoor displays comprise an open loop ambient air pathway through the electronic display housing wherein the electronic display is coolable by a combination of gas circulation within the closed loop gas cooling chamber and ambient air flow through the open loop ambient air pathway in the electronic display housing.  Open loop ambient air pathways (dark channels in image above; light blue areas in schematic below).  Electronic display housing. ELECTRONIC DISPLAY Electronic Components Gas-containing closed loop gas cooling chamber. Electronic display.

Ex. 36: Claim Chart for U.S. Patent No. 9,629,287
MRI 55" Units

Analysis of MRI 55" Outdoor Display Products
Claim Chart for U.S. Patent No. 9,629,287

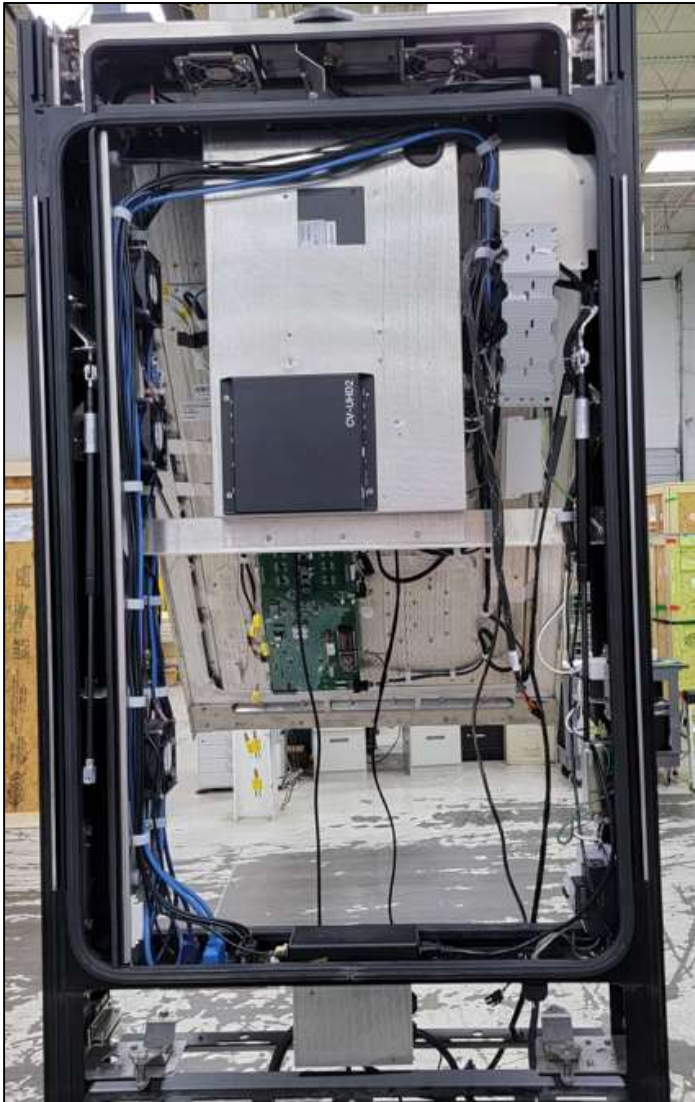
MRI 55" Outdoor Displays¹ and Digital Menu Boards:



¹ MRI custom developed an 88-inch electronic display for a single customer and delivered a number of those units 2021. These 88-inch displays are similar to MRI's 55-inch BoldVu® electronic displays from a technical perspective in that the general structure and cooling technologies of the 88-inch units are substantially similar to the structure and cooling technologies of the 55-inch BoldVu® electronic displays depicted herein. The 88-inch displays practice the '287 Patent in the same manner explained herein for the 55-inch displays.

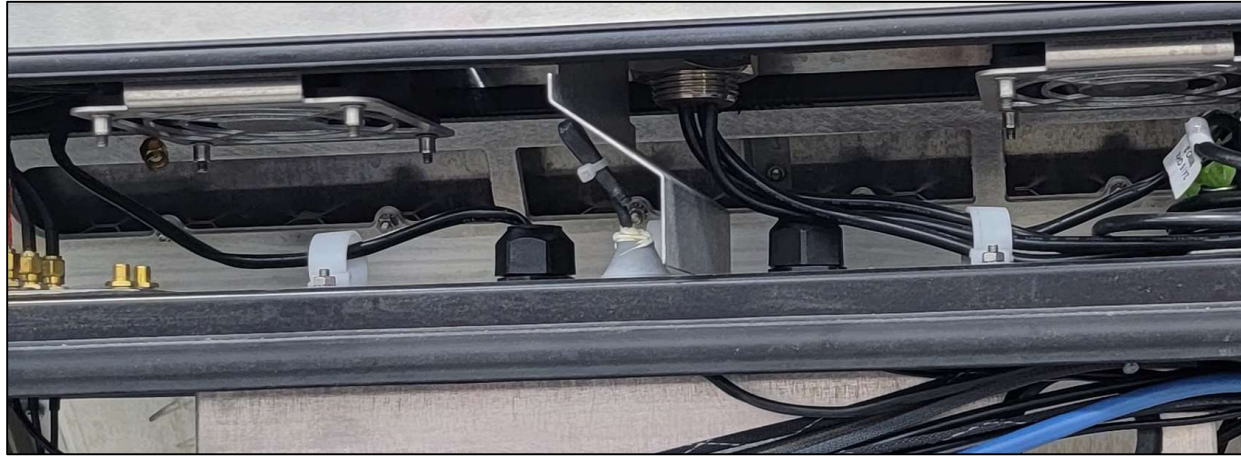
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MRI 55" Units

Interior view of MRI 55" Outdoor Displays:



Ex. 36: Claim Chart for U.S. Patent No. 9,629,287
MRI 55" Units

Internal View of Top:

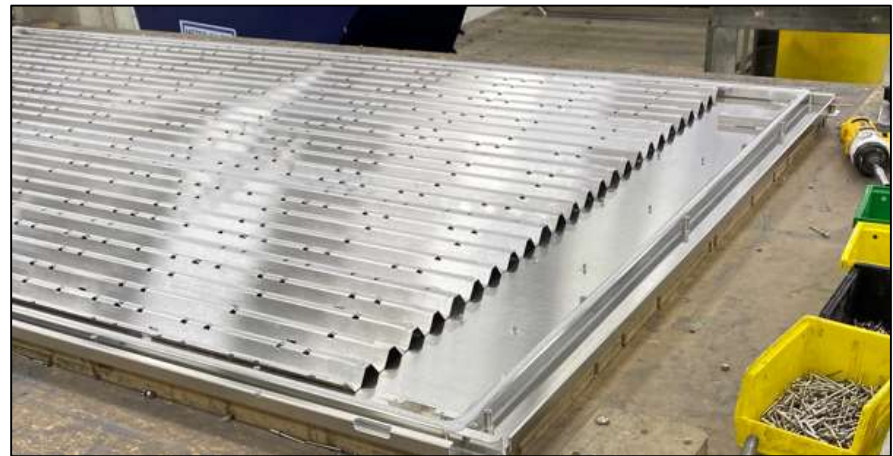


Internal View of Bottom:



Ex. 36: Claim Chart for U.S. Patent No. 9,629,287
MRI 55" Units

Backlight Assembly* (pictures below are of a backlight for large-format models, which is substantially the same as the backlight for mid-size (55") models except for dimensions):



*Photos depict exemplary components and construction of MRI displays.

Ex. 36: Claim Chart for U.S. Patent No. 9,629,287
MRI 55" Units

The electronic display has multiple components, including the LED backlight* (pictures below are of the LEDs in a backlight for large-format models, which is substantially the same as the mid-size (55") models except for dimensions):



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When the LED backlight is operational, the LCD cell can generate color displays:

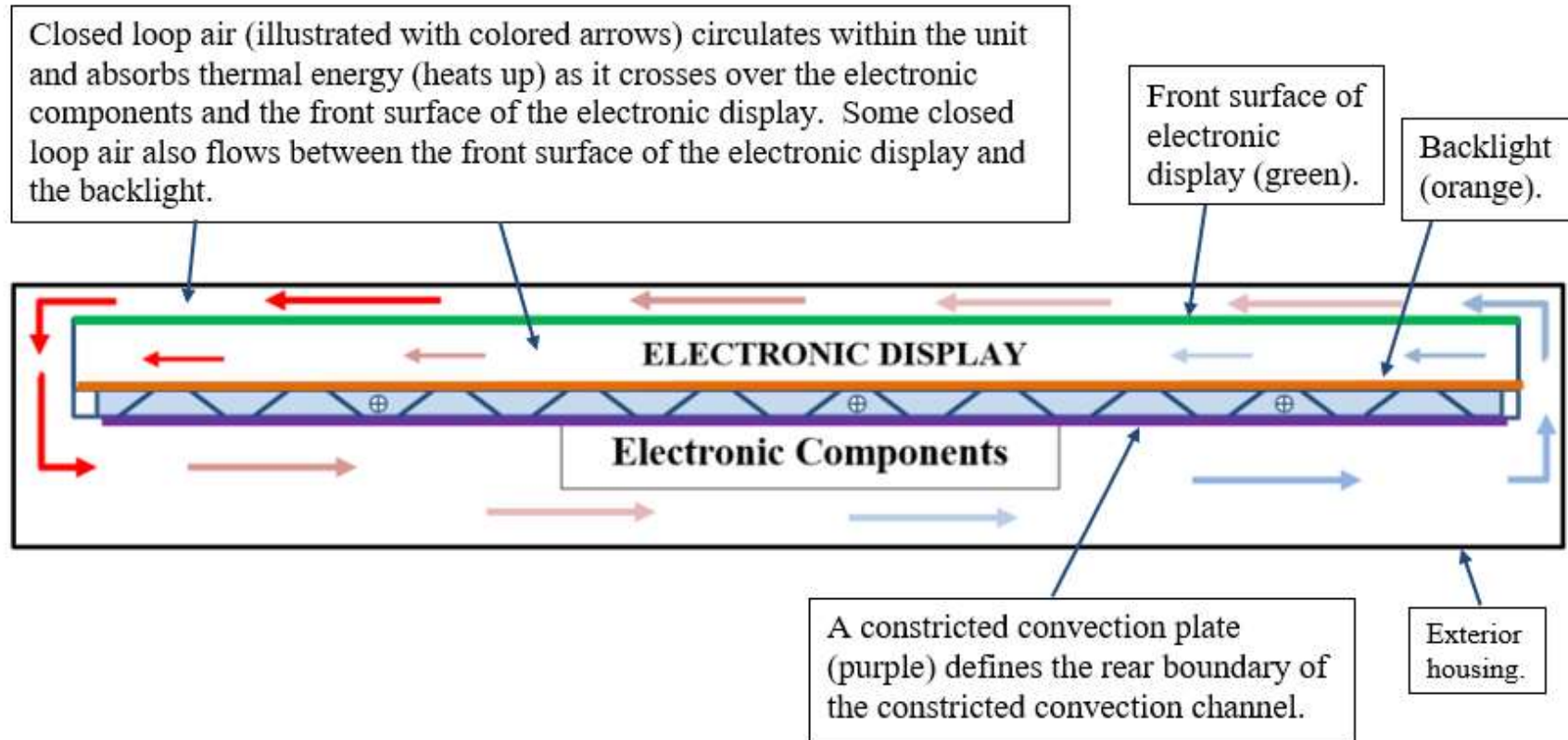


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MRI 55" Units

Schematic of Airflow within unit (1 of 2): Closed loop air

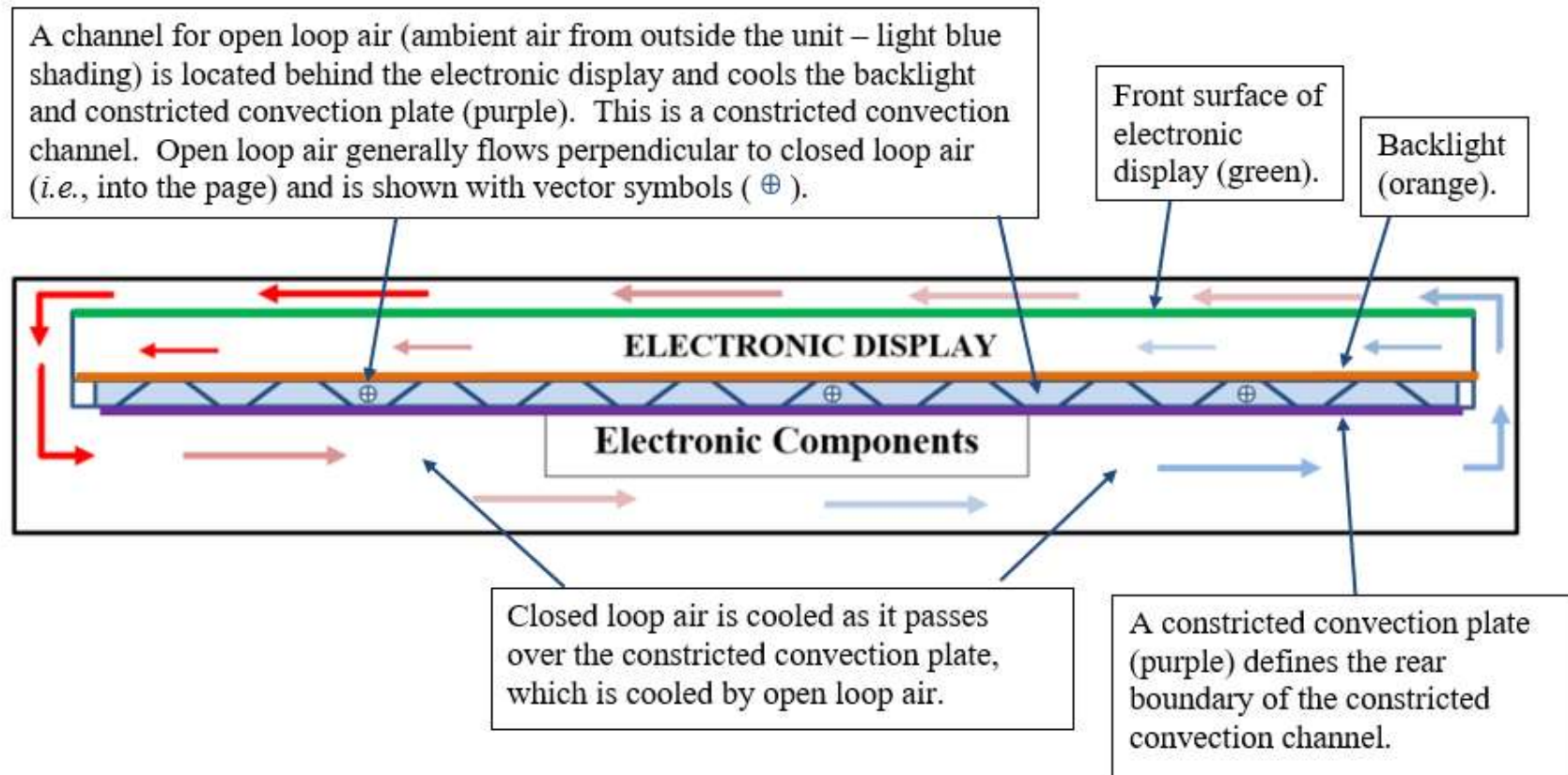
View from Top of Display:



Ex. 36: Claim Chart for U.S. Patent No. 9,629,287
MRI 55" Units

Schematic of Airflow within unit (2 of 2): Open loop air

View from Top of Display:



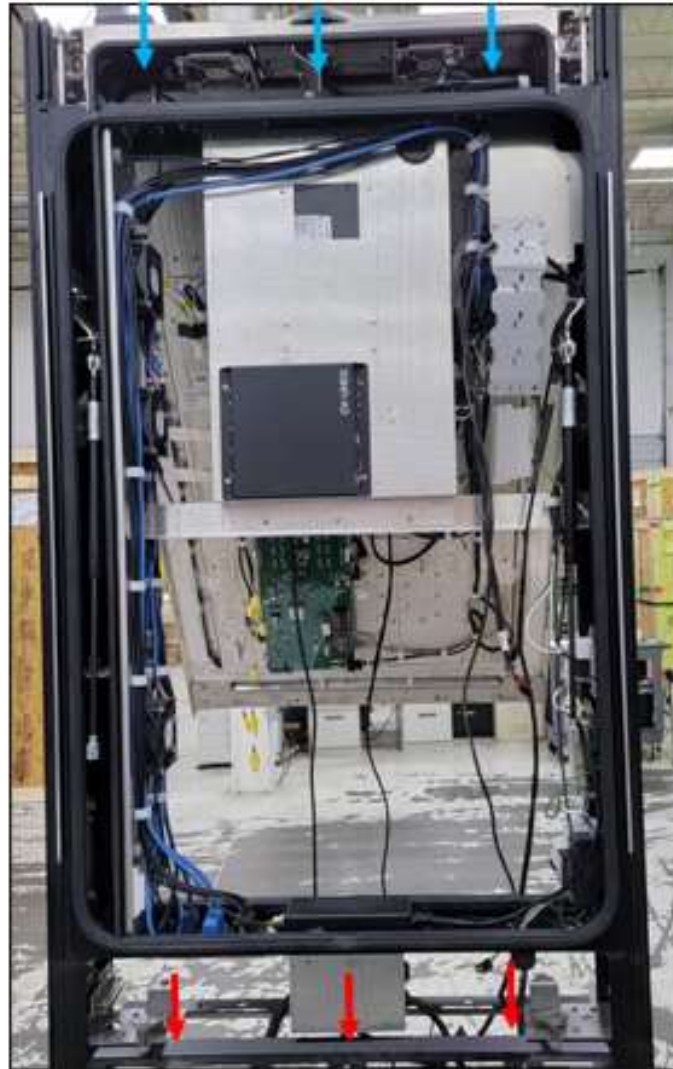
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MRI 55" Units

Interior view of MRI 55" Outdoor Displays:

Cool, open loop (ambient) air enters the unit from the top (light blue arrows).

Cool, open loop air absorbs thermal energy as it passes through the constricted convection channel. (The front panel comprising the electronic display and constricted convection plate is attached by a hinge at the top of the unit and open in this image.)

Heated open loop air exits the unit at the bottom and removes heat from the unit (red arrows).



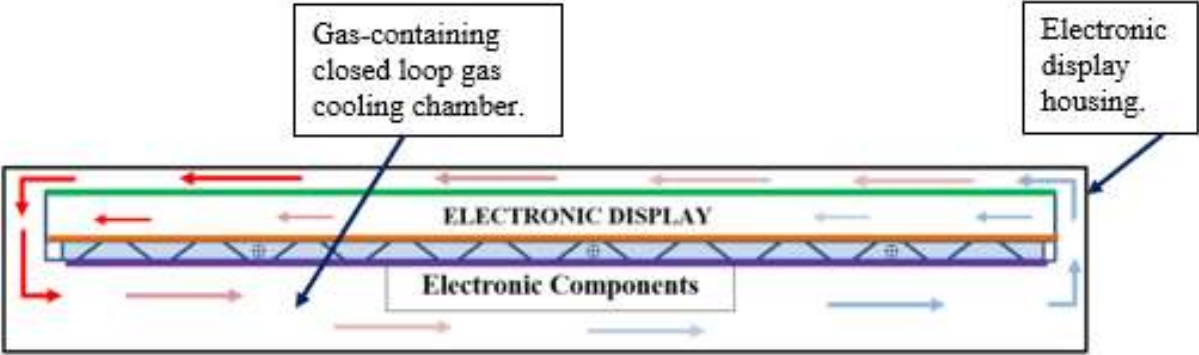
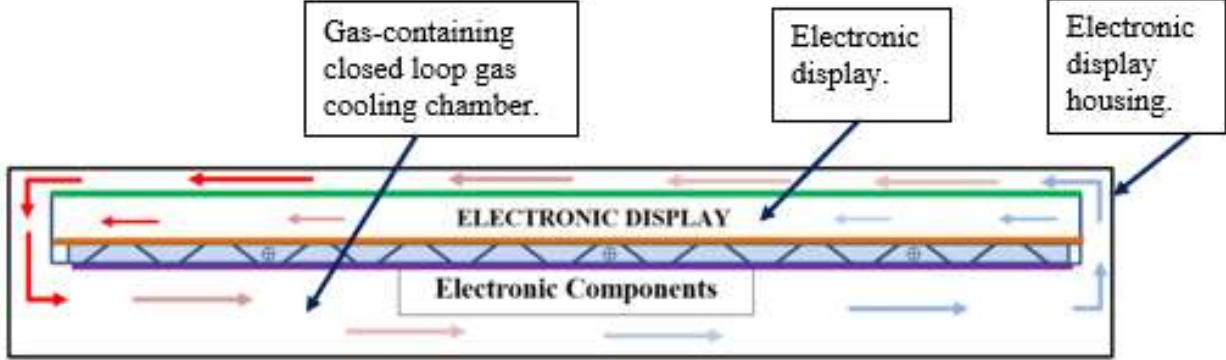
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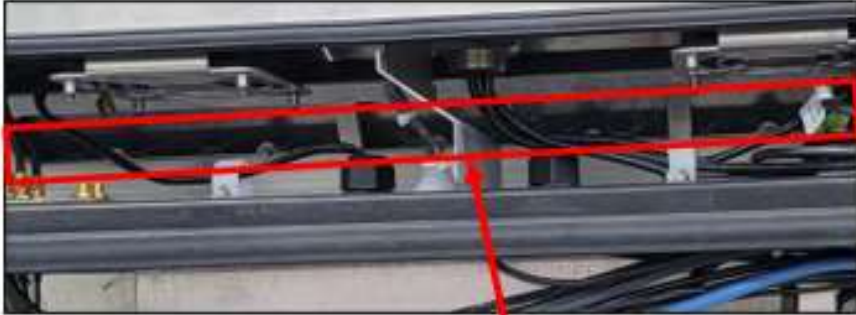
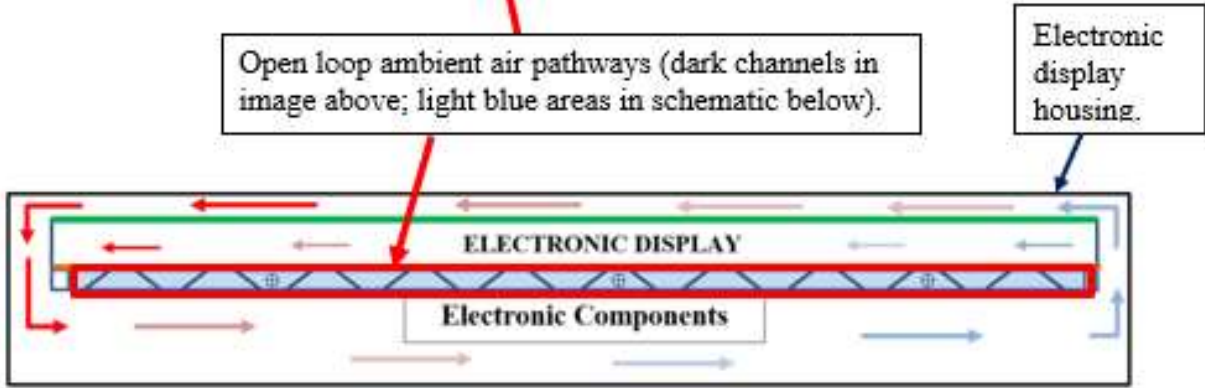
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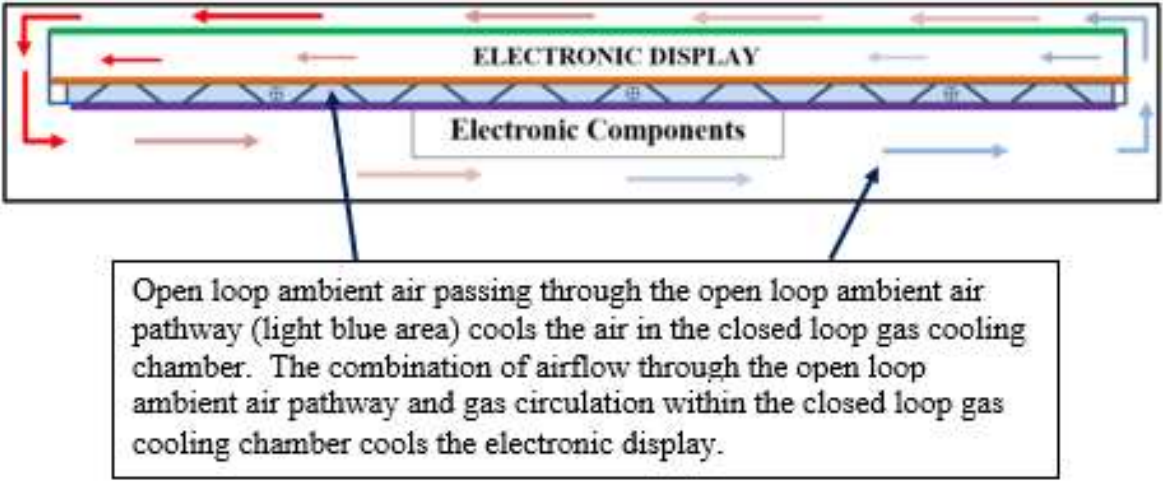
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