

# **EXHIBIT 26**

# U.S. Patent No. 7,683,509

Claims 1, 2, 14, and 15.

Toyota / Aisin Water Pump

Toyota P/N G9040-33030

Aisin P/N WQT-002

"1. A fluid-cooled electromagnetic field-functioning device comprising:"

1. A fluid-cooled electromagnetic field-functioning device comprising:

The Toyota / Aisin Water Pump (the "Aisin Pump") has a Toyota part number G9040-33030 and Aisin part number WQT-002:



20160808\_151508.jpg

The Aisin Pump is marked with the Aisin logo:

O.E. Part #	Manufacturer	AISIN Part #
16120-49046	Toyota	WPT-065
16120-49055	Toyota	WPT-065
16120-49065	Toyota	WPT-084
16120-49080	Toyota	WPT-084
161A0-29015	Toyota	WPT-190
161A0-39015	Toyota	WPT-190
161A0-39025	Toyota	WPT-191
<b>G9040-33030</b>	<b>Toyota</b>	<b>WQT-002</b>

Aisin Cooling Catalog 2016.pdf at 145 (hereinafter "Aisin Cooling Catalog"), available at <http://aisinaftermarket.com/FlipBook/CoolingCatalog/mobile/index.html> (downloaded Dec. 6, 2016)

"1. A fluid-cooled electromagnetic field-functioning device comprising:"



20160808\_151722.jpg

The Aisin Pump is a water pump and is believed to be installed in the following 2016 Toyota models:

- 2016 Toyota Avalon Hybrid Limited 2.5L L4 - Electric/Gas

"1. A fluid-cooled electromagnetic field-functioning device comprising:"



See, <http://www.toyota.com/avalon/>

- 2016 Toyota Camry Hybrid LE 2.5L L4 - Electric/Gas
- 2016 Toyota Camry Hybrid SE 2.5L L4 - Electric/Gas
- 2016 Toyota Camry Hybrid XLE 2.5L L4 - Electric/Gas

"1. A fluid-cooled electromagnetic field-functioning device comprising:"



See, <http://www.toyota.com/camry/>

- 2016 Toyota RAV4 LE 2.5L L4 – Gas
- 2016 Toyota RAV4 Limited 2.5L L4 – Gas
- 2016 Toyota RAV4 XLE 2.5L L4 – Gas
- 2016 Toyota RAV4 SE 2.5L L4 – Gas
- 2016 Toyota RAV4 Hybrid XLE 2.5L L4 - Electric/Gas
- 2016 Toyota RAV4 Hybrid Limited 2.5L L4 - Electric/Gas

"1. A fluid-cooled electromagnetic field-functioning device comprising:"



See, <http://www.toyota.com/rav4/>

<http://parts.olathetoyota.com/oe-toyota/g904033030> (accessed December 12, 2016).

The Aisin Pump is made in Japan:



20160808\_151508.jpg

The Aisin Pump is a pump containing a fluid-cooled electric motor, as indicated on the purchase receipt:

"1. A fluid-cooled electromagnetic field-functioning device comprising:"

*Kenny Thomas*  
**OLATHE TOYOTA**

685 N. Rawhide  
 Olathe, Kansas 66061

Tollfree: (866) 596-1970 - Phone (913) 780-9919 - Wholesale Parts (913) 782-1370 - Fax (913) 780-5062  
 E-mail: parts@olathetoyota.com - Web: www.olathetoyota.com

ALL CLAIMS AND RETURNED GOODS MUST BE ACCOMPANIED BY THIS INVOICE.  
 NO RETURNS ON ELECTRICAL OR SPECIAL ORDER PARTS.  
 NO RETURNS AFTER 30 DAYS. 20% RE-STOCK CHARGE ON ALL RETURNED PARTS.

**DISCLAIMER OF WARRANTIES**  
 All expressed warranties, if any, by a Manufacturer or supplier other than the Dealer are theirs, not Dealer's, unless otherwise provided in writing on the face of this order or in a separate writing furnished to Customer by Dealer.  
**ALL PARTS INSTALLED ARE NEW UNLESS SPECIFIED OTHERWISE AS BEING USED OR REMANUFACTURED.**

DATE ENTERED 29 JUL 16	YOUR ORDER NO. 16879	DATE SHIPPED 29 JUL 16	INVOICE DATE 29 JUL 16	INVOICE NUMBER 630681
---------------------------	-------------------------	---------------------------	---------------------------	--------------------------

\*\*PREPAID\*\*  
 ACCOUNT NO. P66  
 PAGE 1 OF 2

GRIFF NEAL  
 707 S. VERMONT ST  
 PALATINE, IL 60067

SHIP VIA	BLSM	BL NO.	TERMS	F.O.B. POINT
PEDX HOME (W)	377	415-902-6600		OLATHE, KS

QTY	PART NO.	DESCRIPTION	LIST	NET	AMOUNT
0	89257-30080	16727 1 COMPU	258.92	258.92	258.92
1	80960-0R030	0 MOTOR	481.04	360.78	360.78
	*** ABOVE PART IS PREPAID ***				
1	161A0-39025	0 PUMP	283.25	283.25	283.25
	*** ABOVE PART IS PREPAID ***				
1	161A0-39035	0 PUMP	278.29	208.72	208.72
	*** ABOVE PART IS PREPAID ***				
1	15100-37060	0 PUMP	164.83	123.62	123.62
	*** ABOVE PART IS PREPAID ***				
1	09040-33030	0 PUMP	331.69	248.77	248.77
	*** ABOVE PART IS PREPAID ***				
1	77020-06306	0 TUBE	363.30	363.30	363.30
	*** ABOVE PART IS PREPAID ***				
1	80960-06020	0 MOTOR	445.67	334.25	334.25
	*** ABOVE PART IS PREPAID ***				
		FREIGHT	22.67		

The following parts have been special ordered:  
 1 80960-0R030 MOTOR ASSY  
 1 161A0-39025 PUMP ASSY  
 1 161A0-39035 PUMP ASSY  
 1 15100-37060 PUMP ASSY

PARTS	
SUBLET	
FREIGHT	
SALES TAX	
<b>TOTAL</b>	

CUSTOMER'S SIGNATURE  
 X

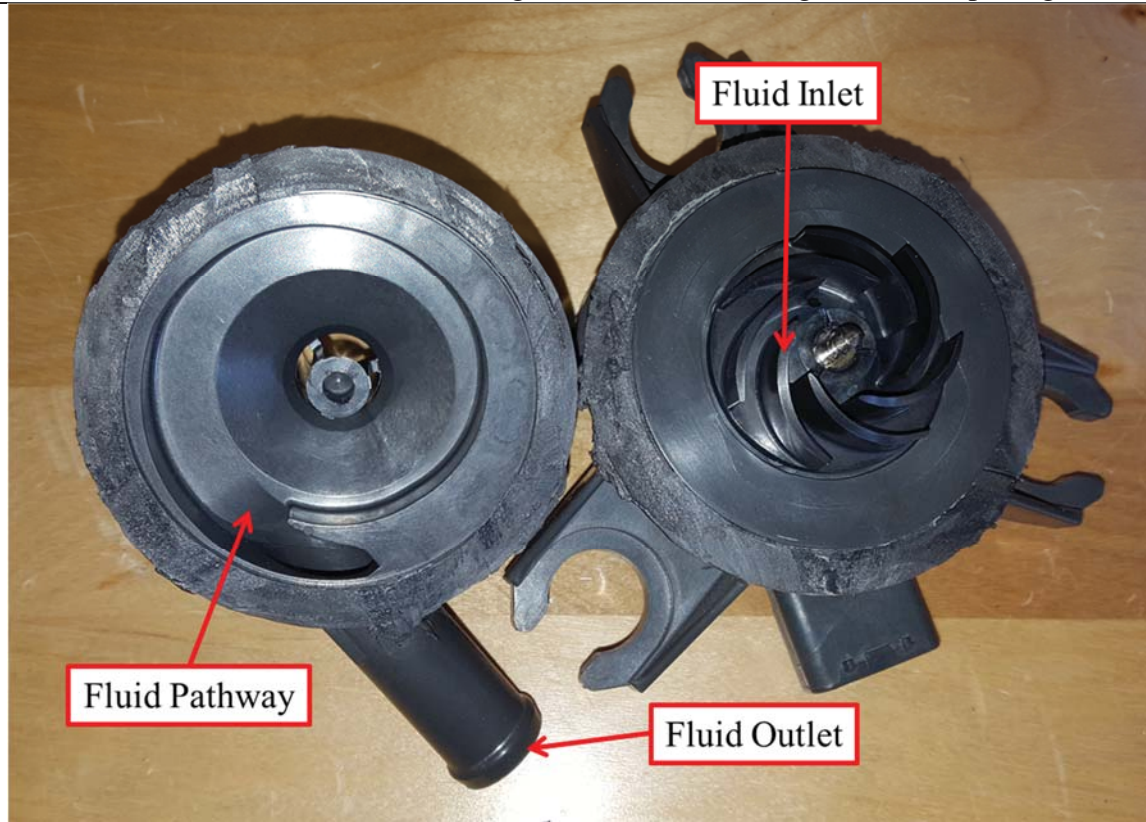
**CUSTOMER COPY**

20160808\_151445.jpg

The Aisin Pump comprises a fluid-cooled electromagnetic field-functioning device. For example, the Aisin Pump contains a fluid pathway for the water that it pumps. The water pumped by the Aisin pump cools the motor. *See, e.g.,* U.S. Pat. No. 7,683,509 at 1:67-2:4 (“Other fluids, and liquids in particular, typically have a high enough heat capacity that they can be used to carry away heat. For example, a water pump driven by a motor uses the water to cool the pump.”):



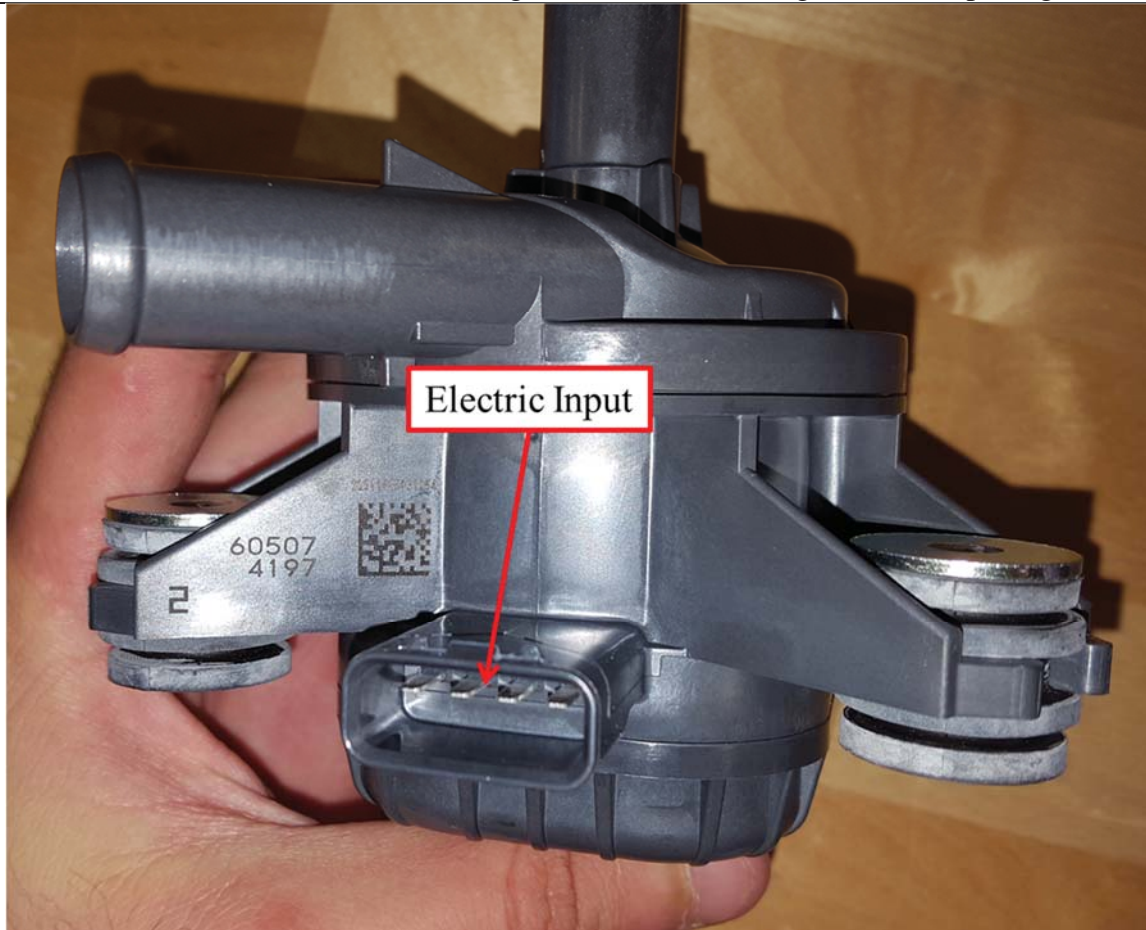
"1. A fluid-cooled electromagnetic field-functioning device comprising:"



20160809\_101706.jpg

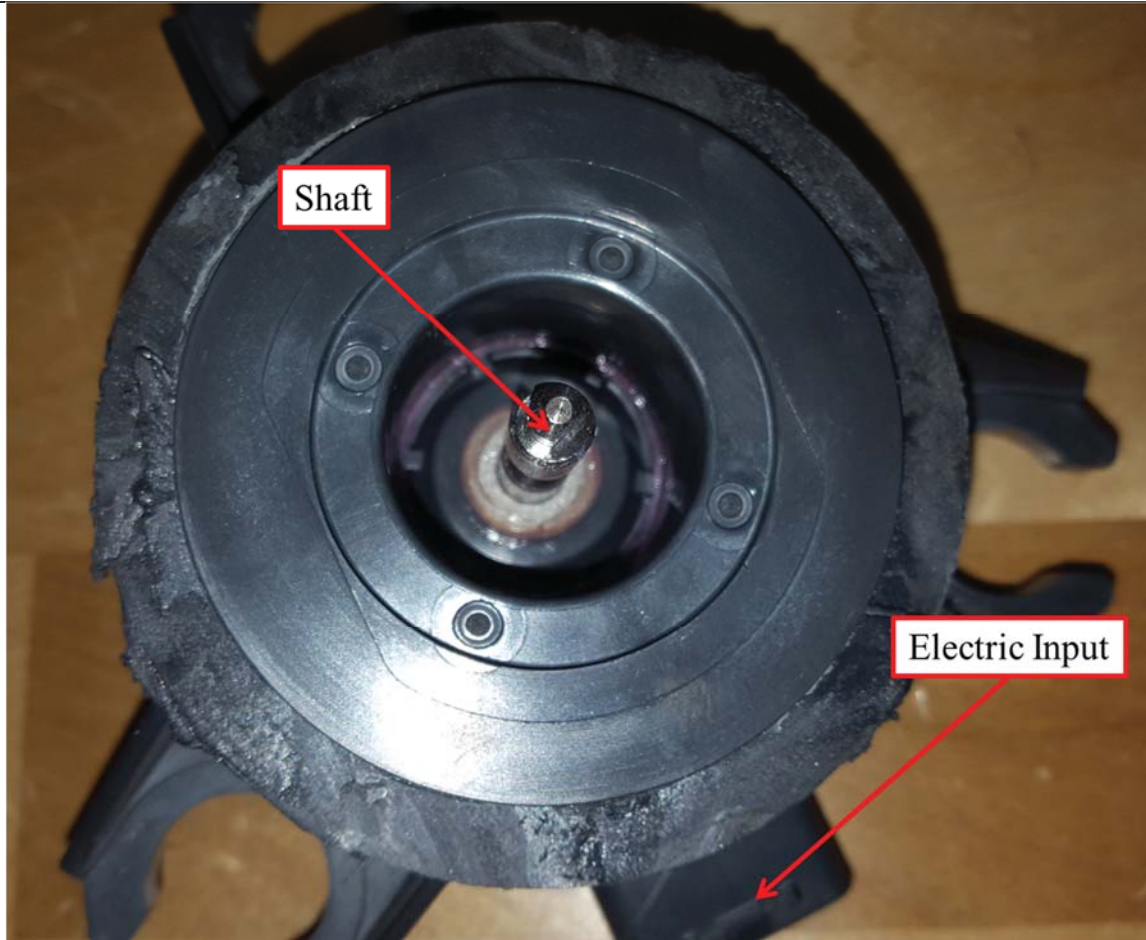
Additionally, the Aisin Pump contains a rotating shaft powered by an electric motor, and an electric input.

"1. A fluid-cooled electromagnetic field-functioning device comprising:"



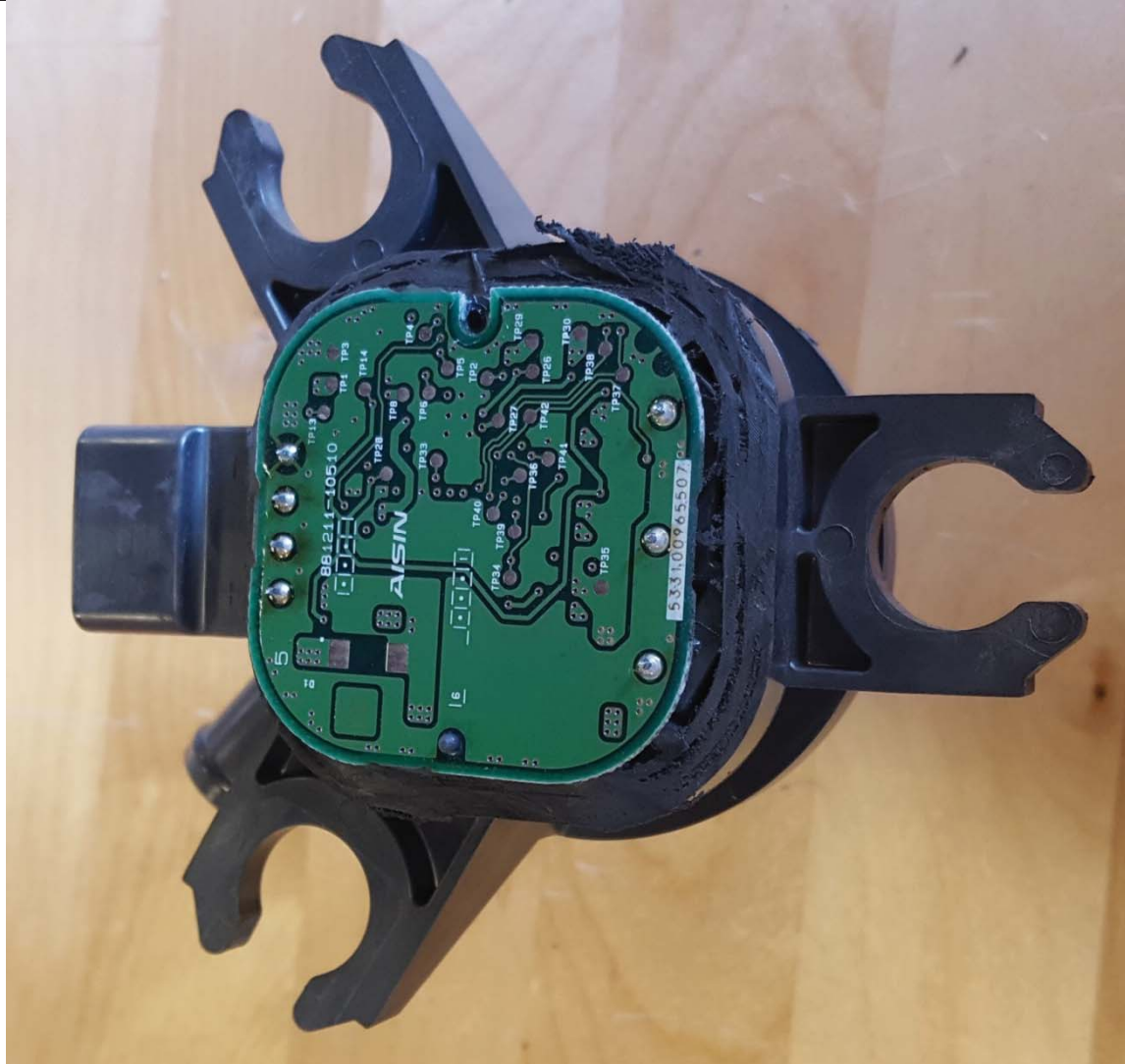
20160808\_151801.jpg

"1. A fluid-cooled electromagnetic field-functioning device comprising:"



20160809\_101718.jpg

"1. A fluid-cooled electromagnetic field-functioning device comprising:"



20160809\_100116.jpg

By way of further example, the Aisin Pump contains a stator assembly comprising poles with wire windings wrapped around said poles. The windings and poles, combined with the electric input, create a rotating magnetic field containing moving polarities. At least one (permanent) magnet is contained within a rotor, which sits in the middle of the stator assembly. The rotor screws into a molded space in the monolithic body of the motor of the Aisin Pump, such space being located in the middle of the stator assembly. This location situates the magnet in the center of the poles with copper wire windings

"1. A fluid-cooled electromagnetic field-functioning device comprising:"

wrapped around them. The electric input provides a charge to these windings (conductors), which then allows the polarity of the poles to change. The magnet then rotates with the changing polarities of the poles.

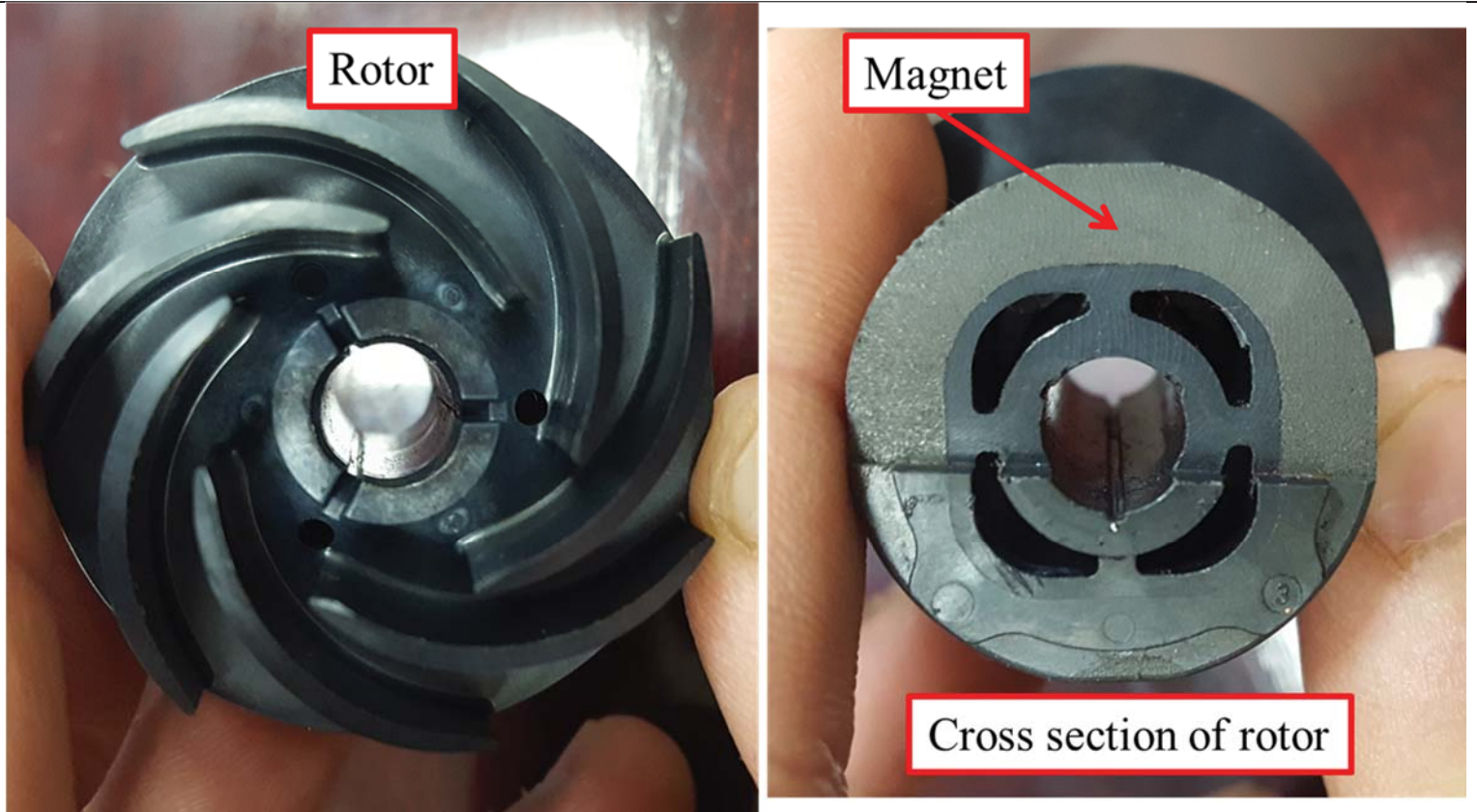
Below is a picture of the permanent magnet of the rotor, the magnetic properties of which are displayed by the attraction of a metal object to the magnet:



20160817\_115132.jpg

A cross section of the rotor shows the magnet within:

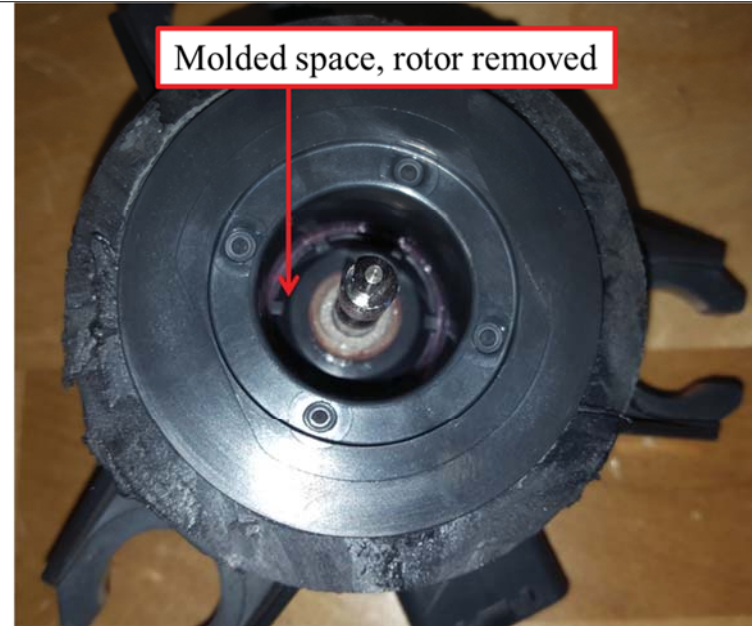
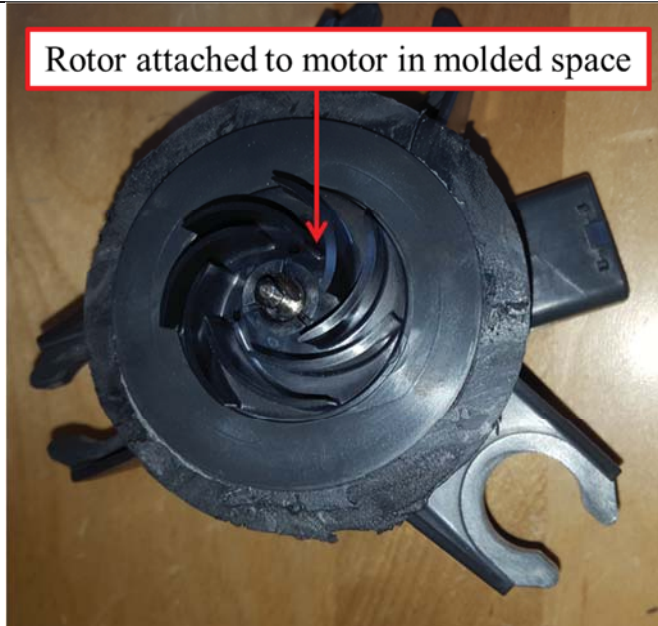
"1. A fluid-cooled electromagnetic field-functioning device comprising:"



20160817\_111712.jpg, 20160817\_111855.jpg

Pictured below is the monolithic body of the motor of the Aisin Pump displaying (1) the rotor within a molded space and (2) the rotor removed from the molded space:

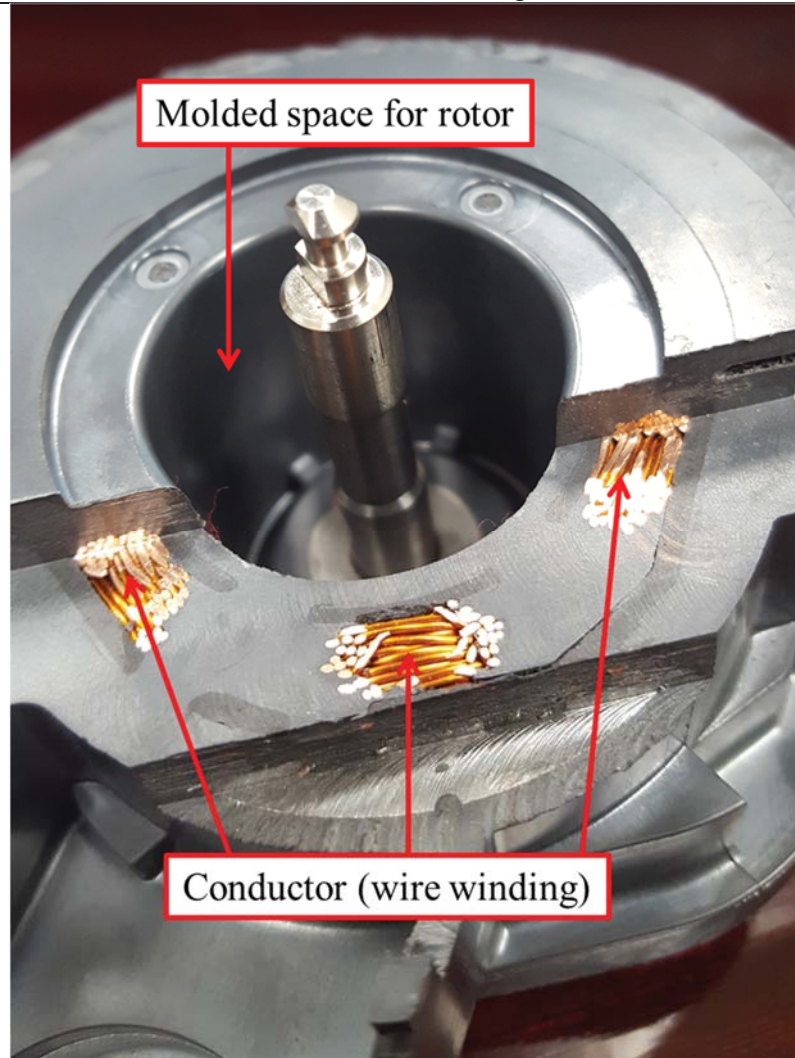
"1. A fluid-cooled electromagnetic field-functioning device comprising:"



20160809\_101659.jpg, 20160809\_101718.jpg

Pictured below are the conductors (wire windings) situated around the molded space in which the rotor, containing the at least one magnet, sits:

"1. A fluid-cooled electromagnetic field-functioning device comprising:"



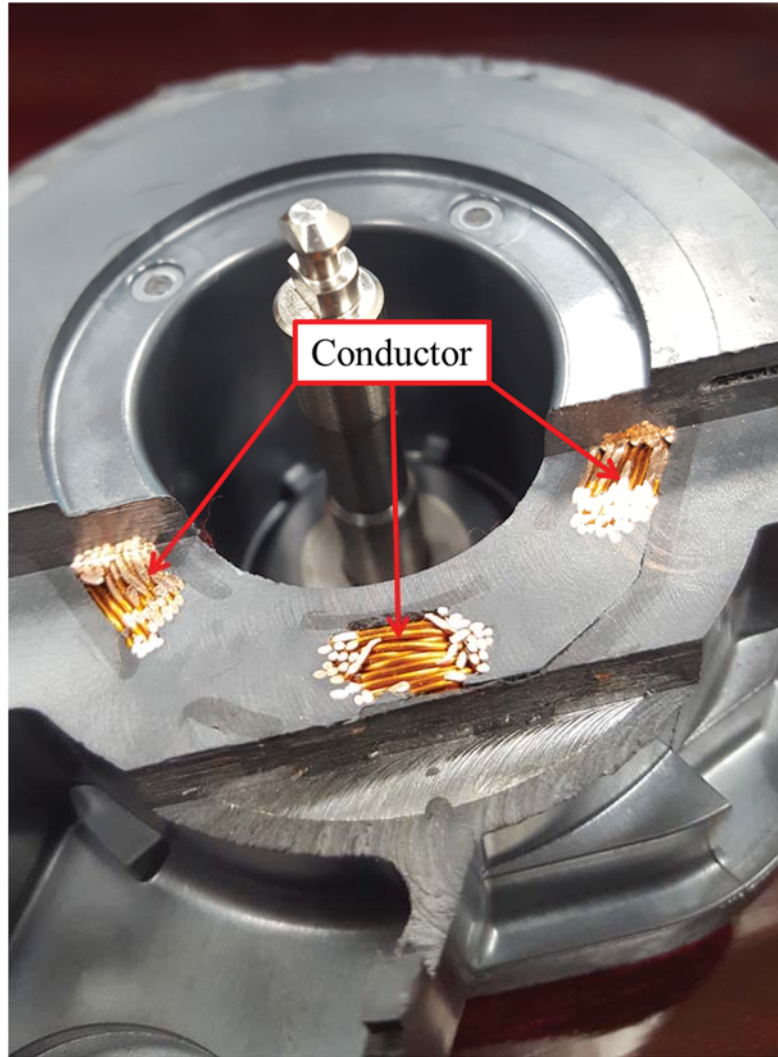
20160817\_111906.jpg



a) at least one electrical conductor;

The Aisin Pump comprises at least one electrical conductor.

As shown in the photo below, the Aisin Pump comprises copper wire windings that function as electrical conductors.



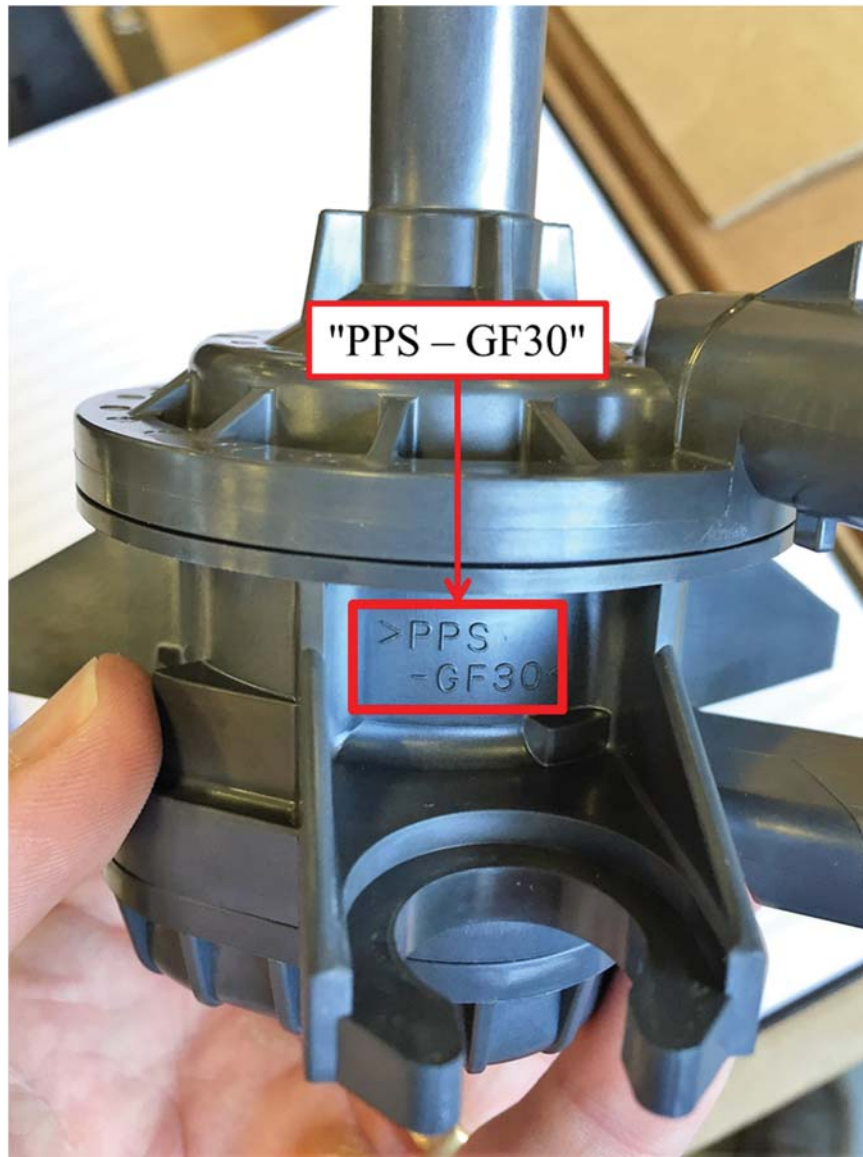
20160817\_111906.jpg

"b) a monolithic body of injection molded thermoplastic material"

b) a monolithic body of injection molded thermoplastic material

The Aisin Pump contains a monolithic body of injection molded thermoplastic material.

The Aisin Pump includes a "PPS – GF 30" label:



"b) a monolithic body of injection molded thermoplastic material"

IMG\_9989.JPG

"PPS – GF 30" refers to polyphenylene sulfide with 30% glass fiber filler ("PPS-GF30"). See, e.g., U.S. Patent Publication 2009/0173903 (application No. 12/295,565), at ¶ 0114 ("The abbreviations of the resin names in the tables above are as follows. PPS-GF30: Polyphenylene sulfide resin containing 30 wt % of glass fibers").

PPS-GF30 is a thermoplastic – the excerpt pictured below is a summary of its properties (including the categories of which it is a member, which includes "thermoplastic") from the MatWeb material property database.

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Searches: **Advanced** | Category | Property | Metals | Trade Name | Manufacturer | Recently Viewed Materials | PPS | SEARCH

### Overview of materials for Polyphenylene Sulfide (PPS) with 30% Glass Fiber Filler

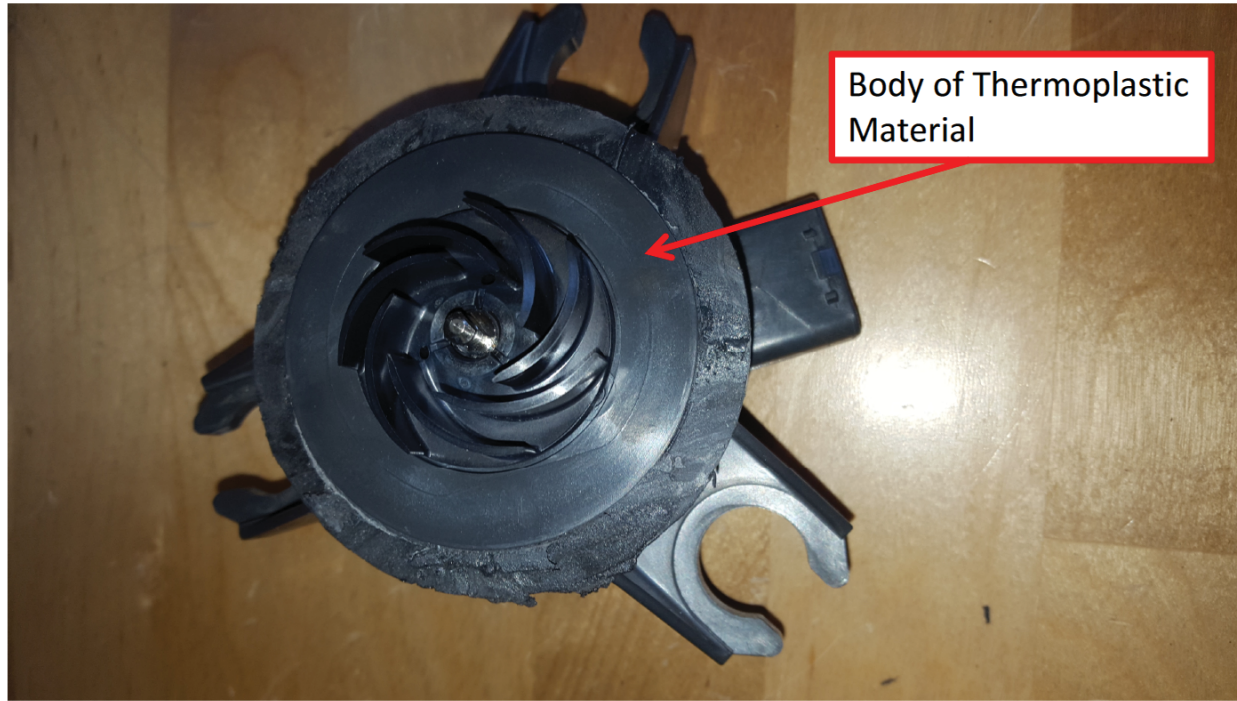
Categories: [Polymer](#); [Thermoplastic](#); [Polyphenylene Sulfide \(PPS\)](#); [Polyphenylene Sulfide \(PPS\) with 30% Glass Fiber Filler](#)

**Material Notes:** This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS) with 30% Glass Fiber Filler". Specific grades with glass content between 25% and 34% are included. Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

<http://www.matweb.com/search/DataSheet.aspx?MatGUID=c43bc743bdc0413ead2b87aca2e38a30&ckck=1> (downloaded Dec. 9, 2016).

The "PPS – GF 30" label on the Aisin Pump denotes that the plastic body of the Aisin Pump is made of this type of thermoplastic material.

"b) a monolithic body of injection molded thermoplastic material"



20160808\_101659.jpg

PPS – GF30 is a thermoplastic that is commonly used in injection molding processes to manufacture parts.

"b) a monolithic body of injection molded thermoplastic material"

**PROSPECTOR**<sup>®</sup>



Home > Plastics > Generics > **Polyphenylene Sulfide (PPS)**

## Polyphenylene Sulfide (PPS) Plastic

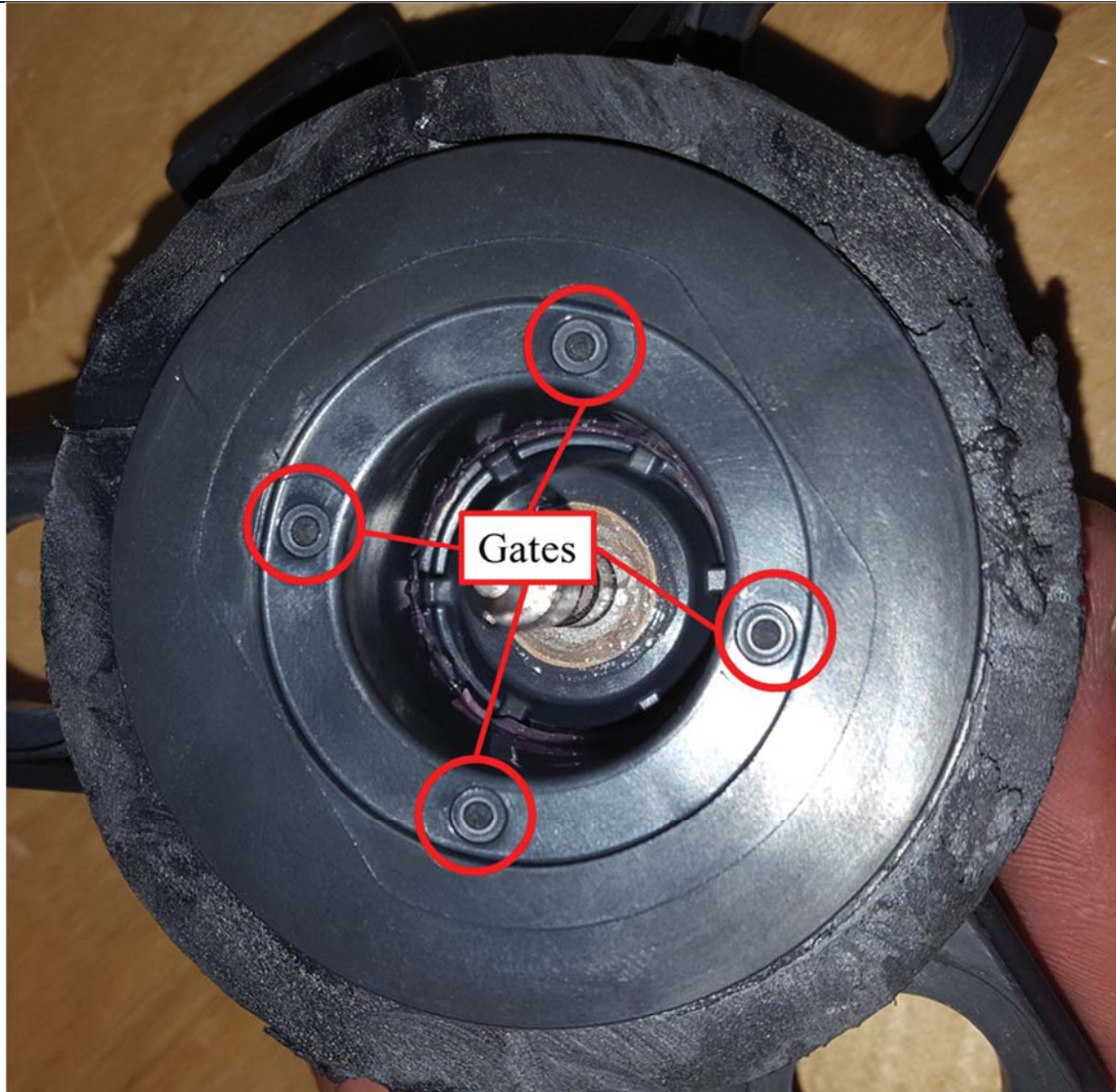
**Polyphenylene Sulfide (PPS)** - [Manufacturers](#) - [Materials](#) - [Classification](#)

Polyphenylene Sulfide (PPS) - A crystalline polymer having a symmetrical, rigid backbone chain consisting of recurring p-substituted benzene rings and sulfur atoms. **A variety of grades suitable for slurry coating, fluidized-bed coating, electrostatic spraying, as well as injection and compression molding are offered.** Polyphenylene sulfides exhibit outstanding chemical resistance, thermal stability, dimensionally stability, and fire resistance. PPS's extreme inertness toward organic solvents, and inorganic salts and bases make for outstanding performance as a corrosion-resistant coating suitable for contact with foods.

<https://plastics.ulprospector.com/generics/41/polyphenylene-sulfide-pps> (accessed Dec. 15, 2016).

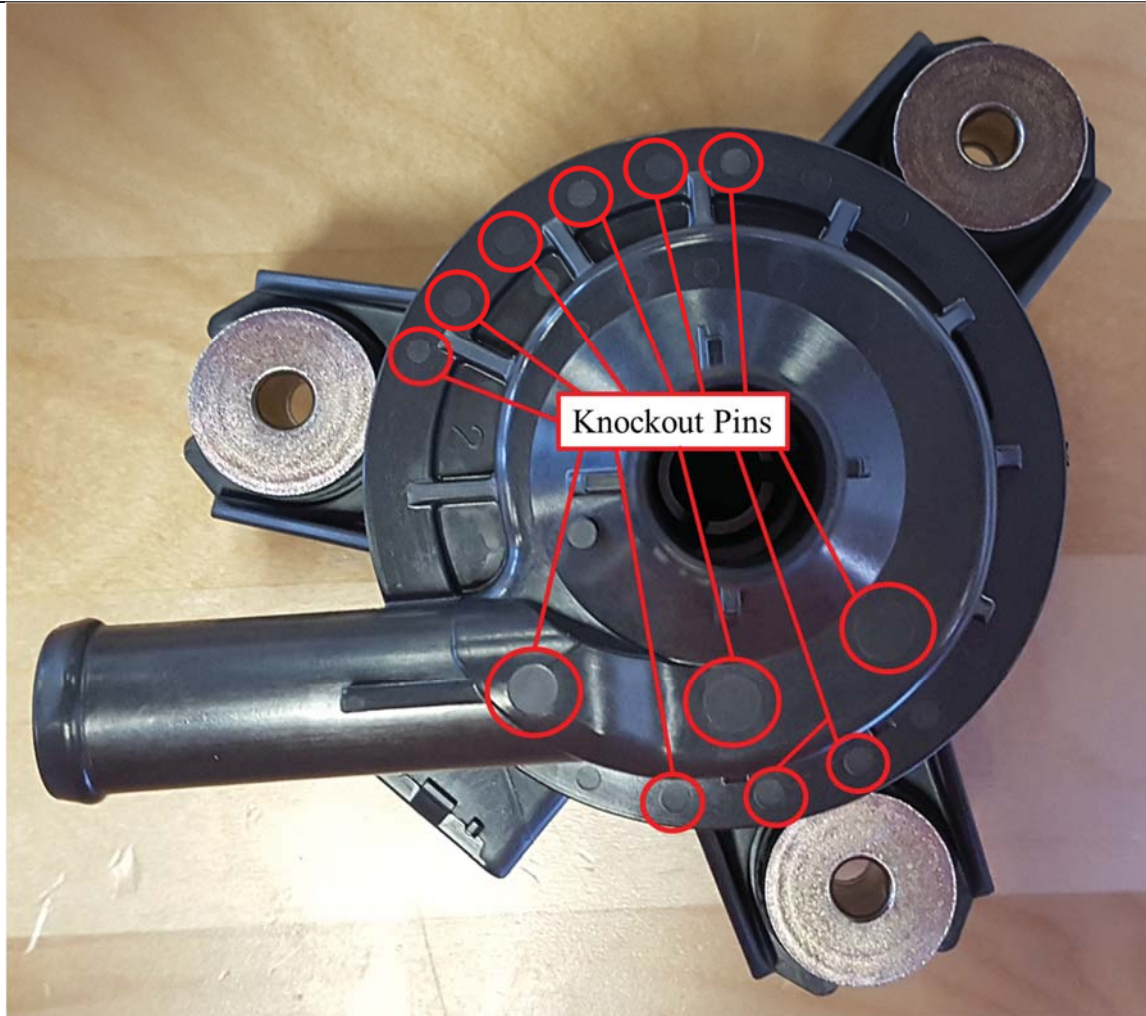
The monolithically formed body of the Aisin Pump contains markings that indicate it as manufactured using injection molding. As shown in the images below, the monolithically formed body of the Aisin Pump shows signs of gates and knockout pins, such markings being associated only with injection molded manufacturing.

"b) a monolithic body of injection molded thermoplastic material"



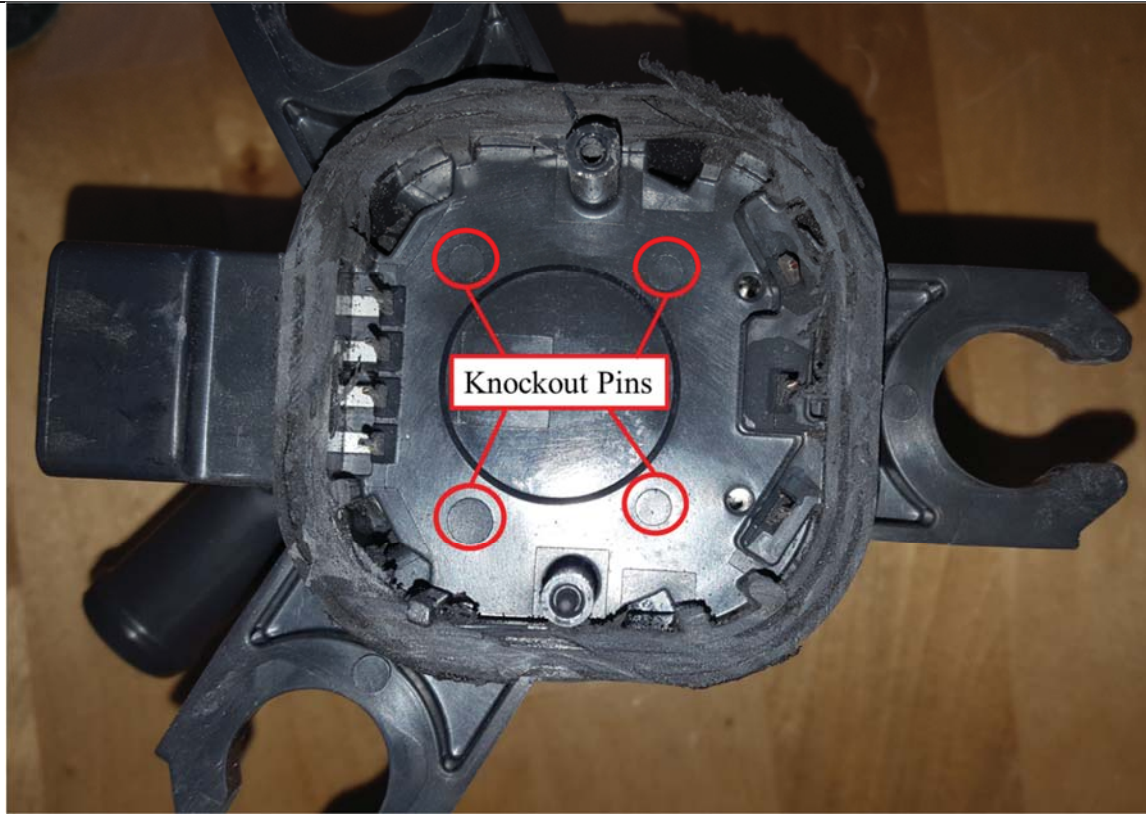
20160809\_102710.jpg

"b) a monolithic body of injection molded thermoplastic material"



20160808\_151740.jpg

"b) a monolithic body of injection molded thermoplastic material"



20160809\_100245.jpg

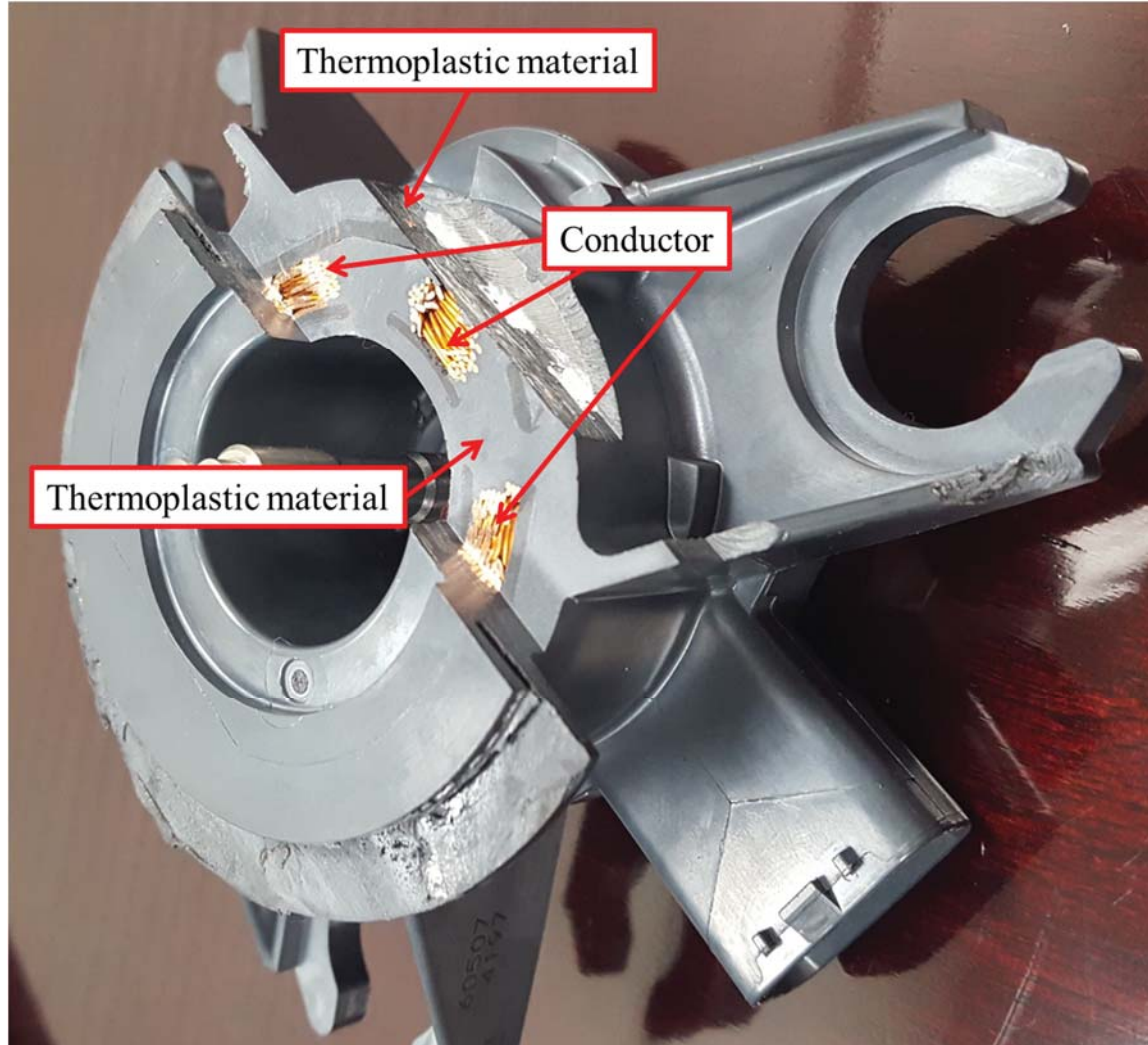


"substantially encapsulating the at least one conductor; and"

substantially encapsulating  
the at least one conductor;  
and

The Aisin Pump comprises an injection molded thermoplastic material that substantially encapsulates the at least one conductor.

The image below shows that the thermoplastic material of which the Aisin Pump body is formed (described above) encapsulates the copper wire windings that operate as the at least one conductor.



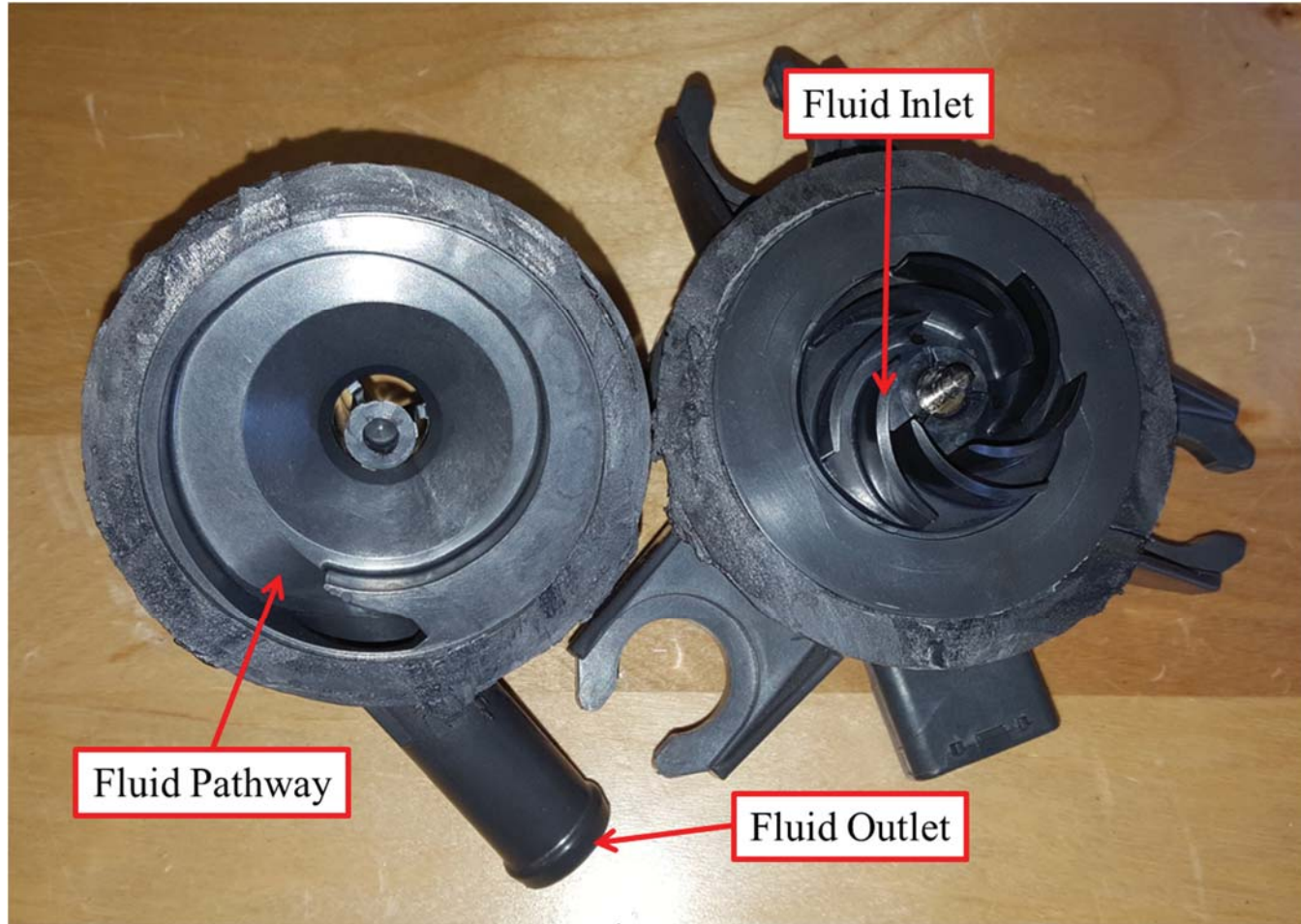
20160817\_105331.jpg

"c) a non-linear heat transfer fluid pathway in the monolithic body, with at least one fluid inlet and at least one fluid outlet to said pathway to allow for passage of heat transfer fluid through the pathway, and"

c) a non-linear heat transfer fluid pathway in the monolithic body, with at least one fluid inlet and at least one fluid outlet to said pathway to allow for passage of heat transfer fluid through the pathway, and

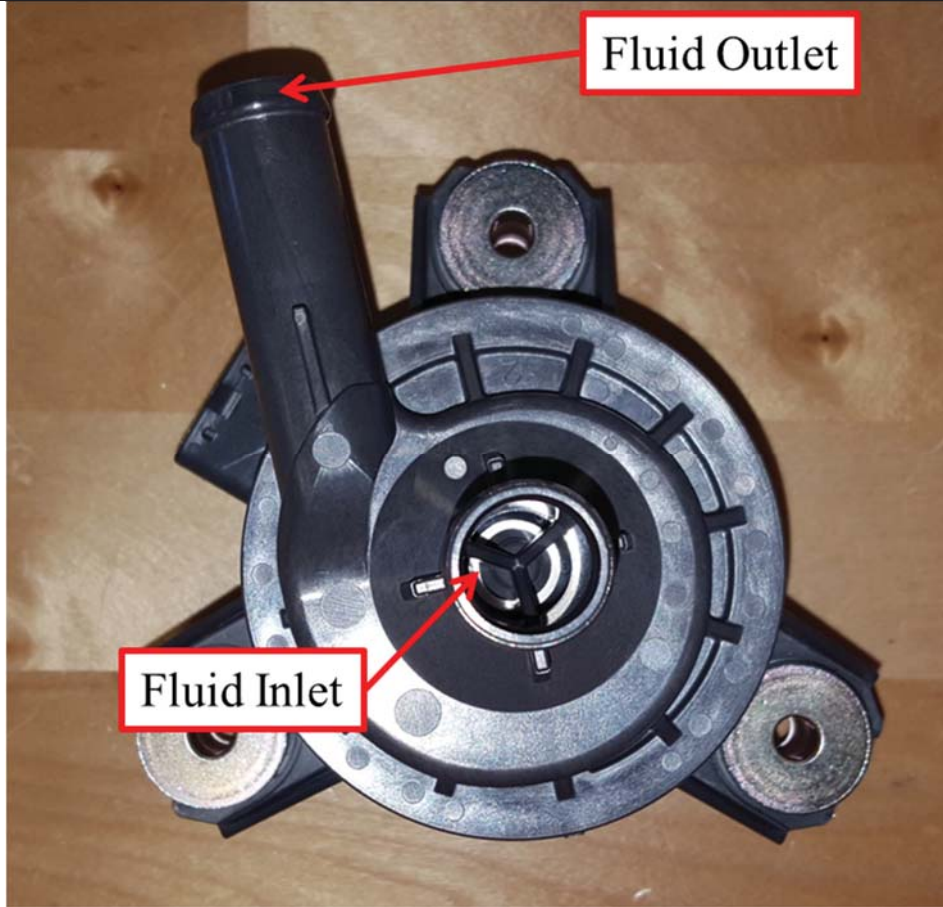
The Aisin Pump comprises a non-linear heat transfer fluid pathway in the monolithic body.

As shown below, the Aisin Pump comprises a curved heat transfer fluid pathway in the monolithic body described above. This pathway contains at least one fluid inlet and at least one fluid outlet for heat transfer fluid. The fluid inlet allows heat transfer fluid (water) to enter the fluid pathway and the fluid outlet allows the fluid to exit the pathway, thereby allowing passage of heat transfer fluid through the pathway.



20160809\_101706.jpg

"c) a non-linear heat transfer fluid pathway in the monolithic body, with at least one fluid inlet and at least one fluid outlet to said pathway to allow for passage of heat transfer fluid through the pathway, and"



20160808\_151825.jpg

"wherein the monolithic body completely covers the exterior of the device except for the at least one fluid inlet and the at least one fluid outlet."

wherein the monolithic body completely covers the exterior of the device except for the at least one fluid inlet and the at least one fluid outlet.

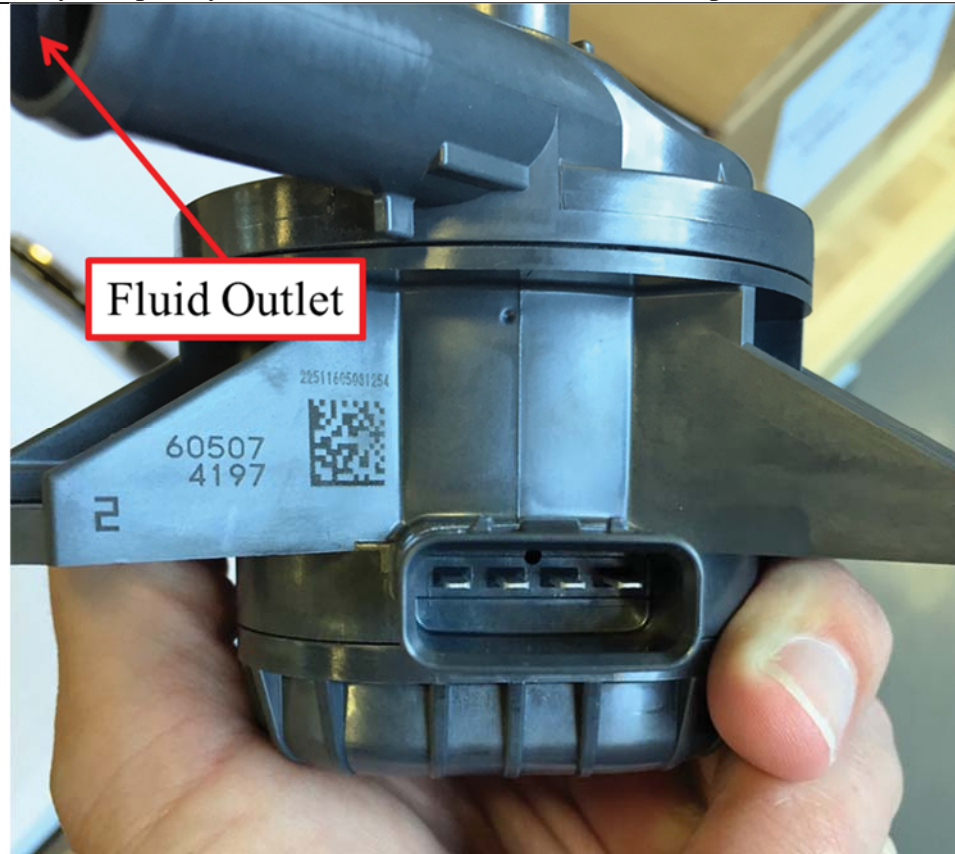
The Aisin Pump comprises a monolithic body which completely covers the exterior of the device, except for the at least one fluid inlet and the at least one fluid outlet.

As the pictures below show, the monolithic body of the Aisin Pump completely covers the exterior of the pump, excepting the at least one fluid inlet and the at least one fluid outlet. The entire exterior of the Aisin Pump is composed of the thermoplastic material described above, and this thermoplastic material encompasses the entire exterior of the pump, excepting the at least one fluid inlet and the at least one fluid outlet.



IMG\_9989.JPG

"wherein the monolithic body completely covers the exterior of the device except for the at least one fluid inlet and the at least one fluid outlet."



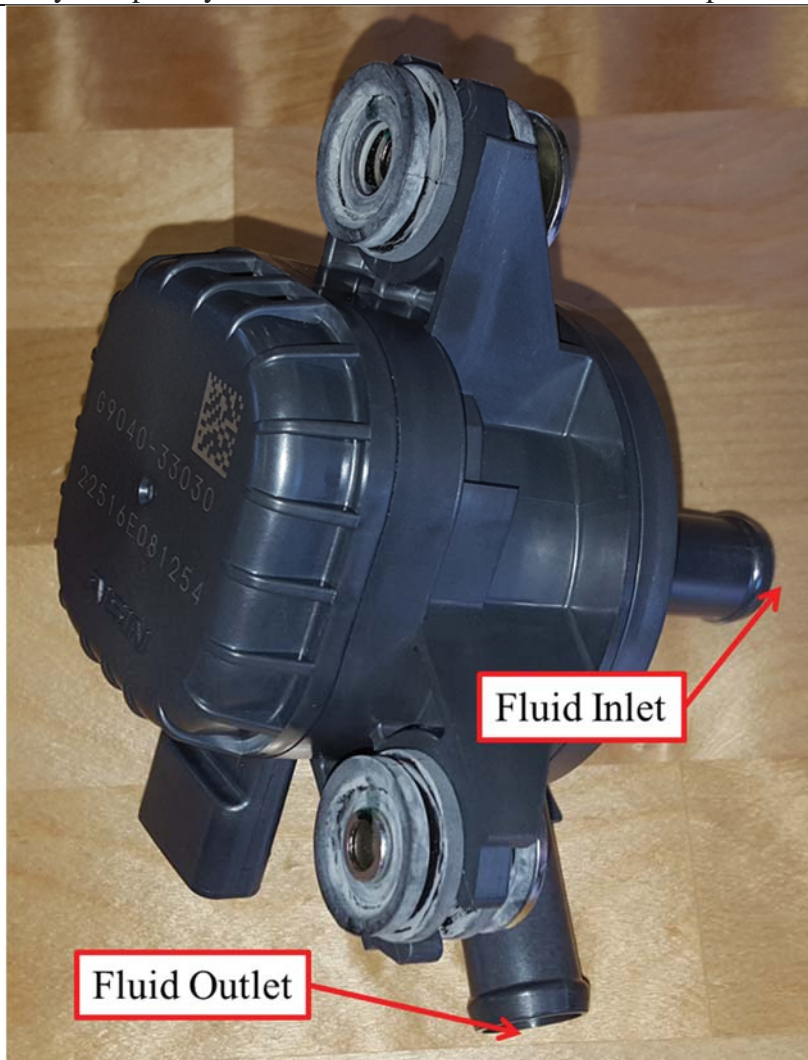
IMG\_9994 (2).JPG

"wherein the monolithic body completely covers the exterior of the device except for the at least one fluid inlet and the at least one fluid outlet."



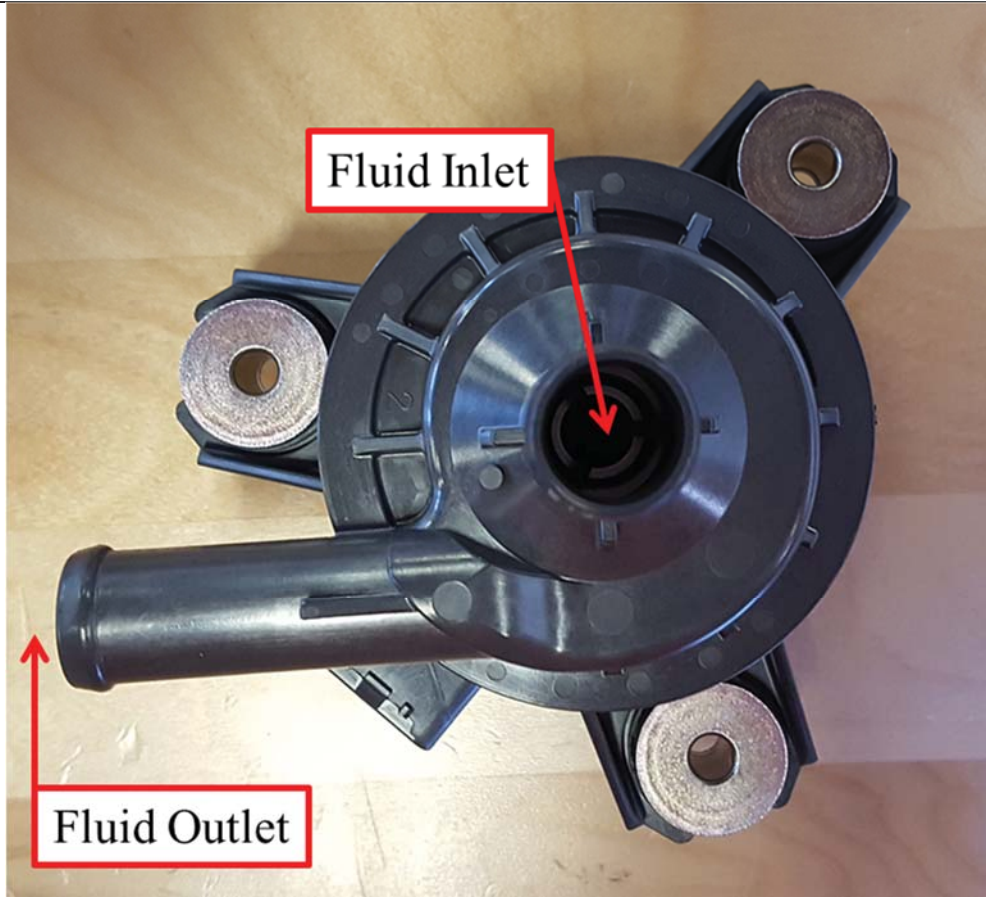
IMG\_9996 (2).JPG

"wherein the monolithic body completely covers the exterior of the device except for the at least one fluid inlet and the at least one fluid outlet."



20160808\_151631.jpg

"wherein the monolithic body completely covers the exterior of the device except for the at least one fluid inlet and the at least one fluid outlet."



20160808\_151740.jpg



"wherein the monolithic body completely covers the exterior of the device except for the at least one fluid inlet and the at least one fluid outlet."



20160808\_152210.jpg

"2. The electromagnetic field-functioning device of claim 1 wherein the device comprises a pump."

2. The electromagnetic field-functioning device of claim 1 wherein the device comprises a pump.

*See* Chart of Claim 1, above.

U.S. Patent No. 7,685,509, Claim 14  
 "14. A fluid-cooled motor comprising:"

14. A fluid-cooled motor comprising:

The Toyota / Aisin Water Pump (the "Aisin Pump") has a Toyota part number G9040-33030 and Aisin part number WQT-002:



20160808\_151508.jpg

The Aisin Pump is marked with the Aisin logo:

O.E. Part #	Manufacturer	AISIN Part #
16120-49046	Toyota	WPT-065
16120-49055	Toyota	WPT-065
16120-49065	Toyota	WPT-084
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161A0-39015	Toyota	WPT-190
161A0-39025	Toyota	WPT-191
<b>G9040-33030</b>	<b>Toyota</b>	<b>WQT-002</b>

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20160808\_151722.jpg

The Aisin Pump is a water pump and is believed to be installed in the following 2016 Toyota models:

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- 2016 Toyota Camry Hybrid LE 2.5L L4 - Electric/Gas
- 2016 Toyota Camry Hybrid SE 2.5L L4 - Electric/Gas

U.S. Patent No. 7,685,509, Claim 14  
"14. A fluid-cooled motor comprising:"

- 2016 Toyota Camry Hybrid XLE 2.5L L4 - Electric/Gas
- 2016 Toyota RAV4 LE 2.5L L4 – Gas
- 2016 Toyota RAV4 Limited 2.5L L4 – Gas
- 2016 Toyota RAV4 XLE 2.5L L4 – Gas
- 2016 Toyota RAV4 SE 2.5L L4 – Gas
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- 2016 Toyota RAV4 Hybrid Limited 2.5L L4 - Electric/Gas

<http://parts.olathetoyota.com/oe-toyota/g904033030> (accessed December 12, 2016).

The Aisin Pump is made in Japan:



20160808\_151508.jpg

The Aisin Pump is a pump containing a fluid-cooled electric motor, as shown below on the purchase receipt:

"14. A fluid-cooled motor comprising:"

*Kenny Thomas'*  
**OLATHE TOYOTA**

685 N. Rawhide  
Olathe, Kansas 66061

Tollfree: (866) 596-1970 - Phone (913) 780-9919 - Wholesale Parts (913) 782-1370 - Fax (913) 780-5062  
E-mail: parts@olathetoyota.com - Web: www.olathetoyota.com

ALL CLAIMS AND RETURNED GOODS MUST BE ACCOMPANIED BY THIS INVOICE.  
NO RETURNS ON ELECTRICAL OR SPECIAL ORDER PARTS.  
NO RETURNS AFTER 30 DAYS. 20% RE-STOCK CHARGE ON ALL RETURNED PARTS.

**DISCLAIMER OF WARRANTIES**  
All expressed warranties, if any, by a Manufacturer or supplier other than the Dealer are theirs, not Dealer's, unless otherwise provided in writing on the face of this order or in a separate writing furnished to Customer by Dealer.  
**ALL PARTS INSTALLED ARE NEW UNLESS SPECIFIED OTHERWISE AS BEING USED OR REMANUFACTURED.**

DATE ENTERED 29 JUL 16	YOUR ORDER NO. 16879	DATE SHIPPED 29 JUL 16	INVOICE DATE 29 JUL 16	INVOICE NUMBER 630681
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\*\*PREPAID\*\*

ACCOUNT NO. P66

PAGE 1 OF 2

GRIFF NEAL  
707 S. VERMONT ST  
PALATINE, IL 60067

GRIFF NEAL  
707 S. VERMONT ST  
PALATINE, IL 60067

SHIP VIA PEDX HOME (W)	BLSM 377	BL NO. 415-902-6600	TERMS	F.O.B. POINT OLATHE, KS
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QTY	PART NO.	DESCRIPTION	LIST	NET	AMOUNT
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1	09040-33030	0 PUMP	331.69	248.77	248.77
	*** ABOVE PART IS PREPAID ***				
1	77020-06306	0 TUBE	363.30	363.30	363.30
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1	80960-06020	0 MOTOR	445.67	334.25	334.25
	*** ABOVE PART IS PREPAID ***				
	FREIGHT 22.67				
The following parts have been special ordered:					
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1	161A0-39025	PUMP ASSY,			
1	161A0-39035	PUMP ASSY,			
1	15100-37060	PUMP ASSY,			

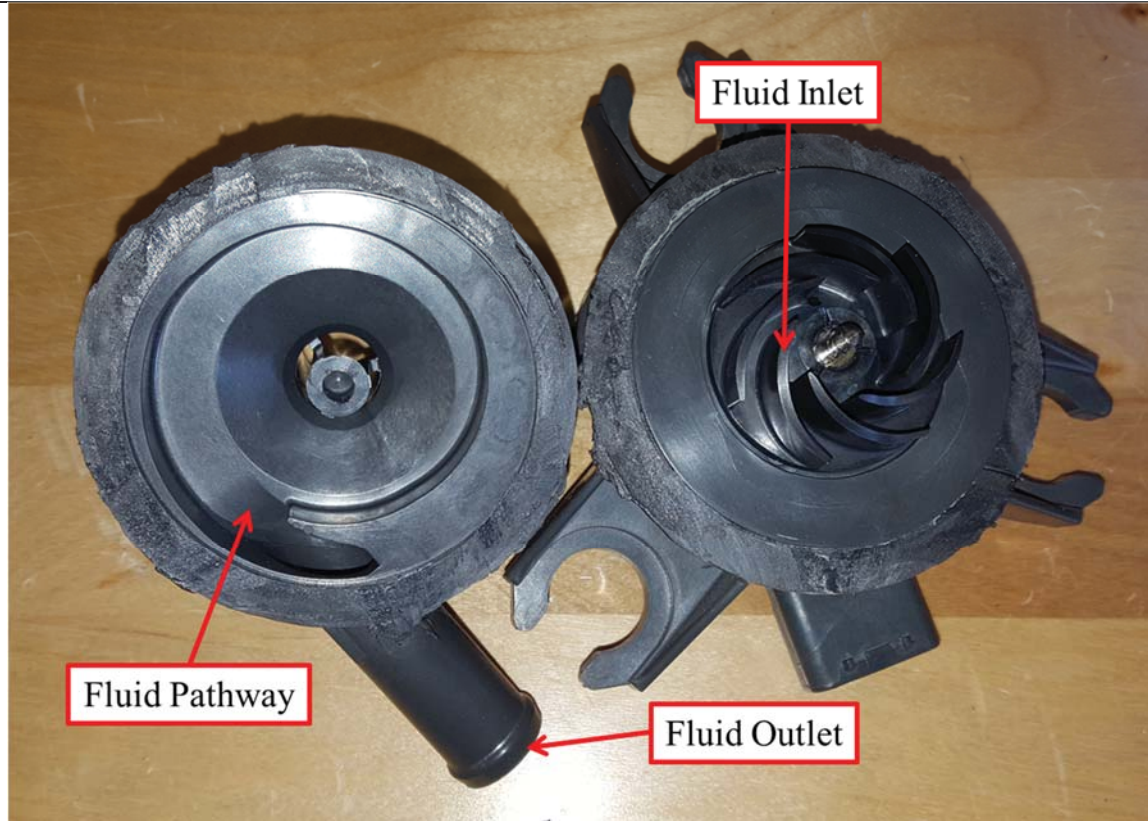
PARTS	
SUBLET	
FREIGHT	
SALES TAX	
<b>TOTAL</b>	

CUSTOMER'S SIGNATURE  
X

**CUSTOMER COPY**

20160808\_151445.jpg

The Aisin Pump also contains a heat transfer fluid pathway to conduct fluid that cools the motor:



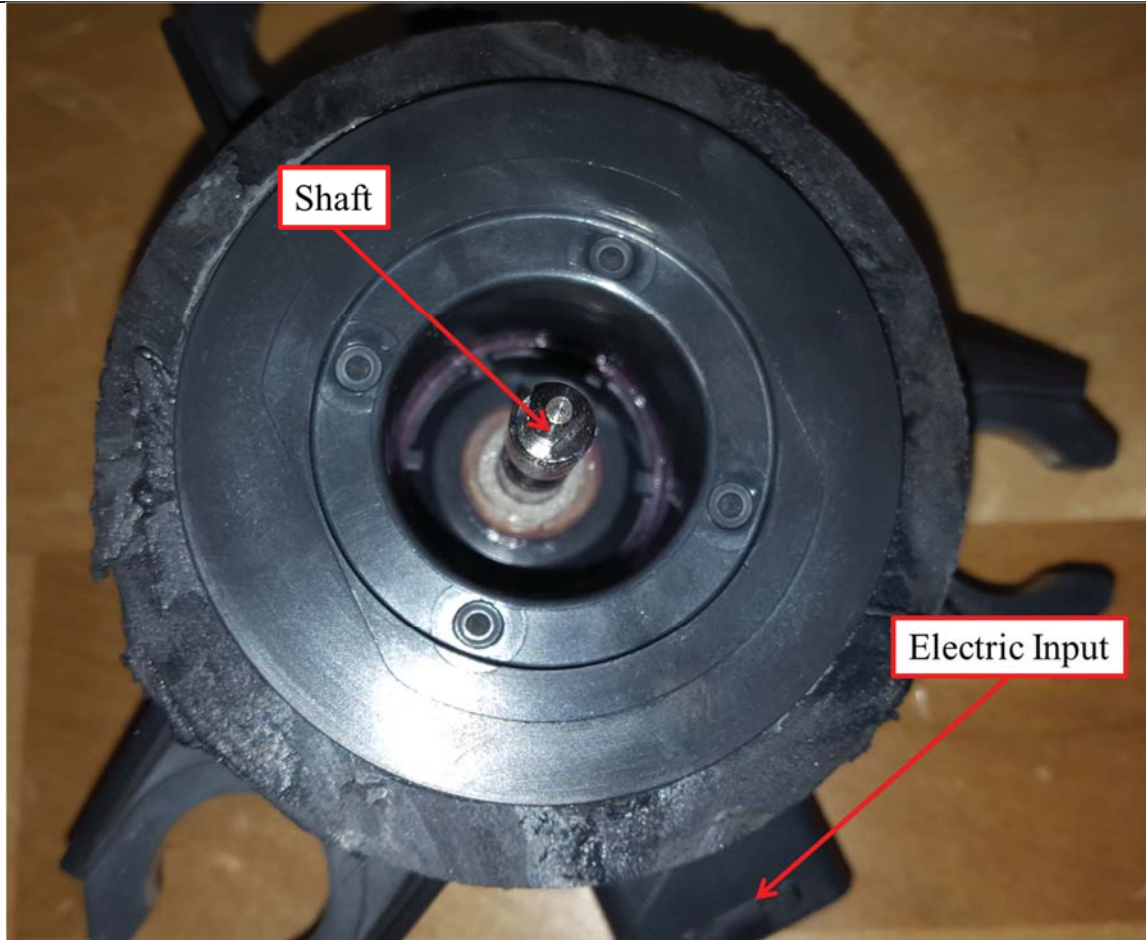
20160809\_101706.jpg

Additionally, the Aisin Pump contains a rotating shaft powered by an electric motor, and an electric input.

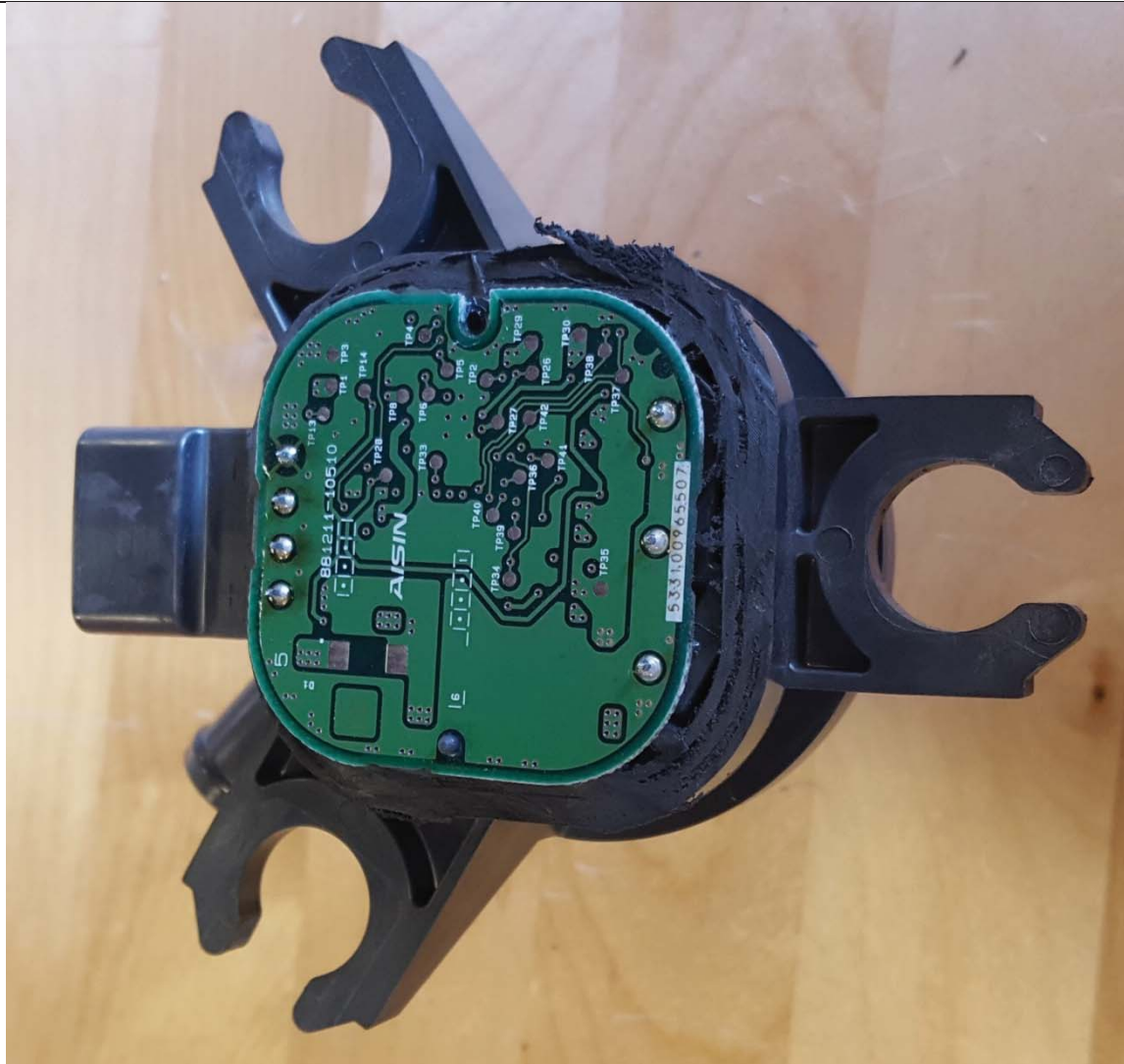


20160808\_151801.jpg





20160809\_101718.jpg



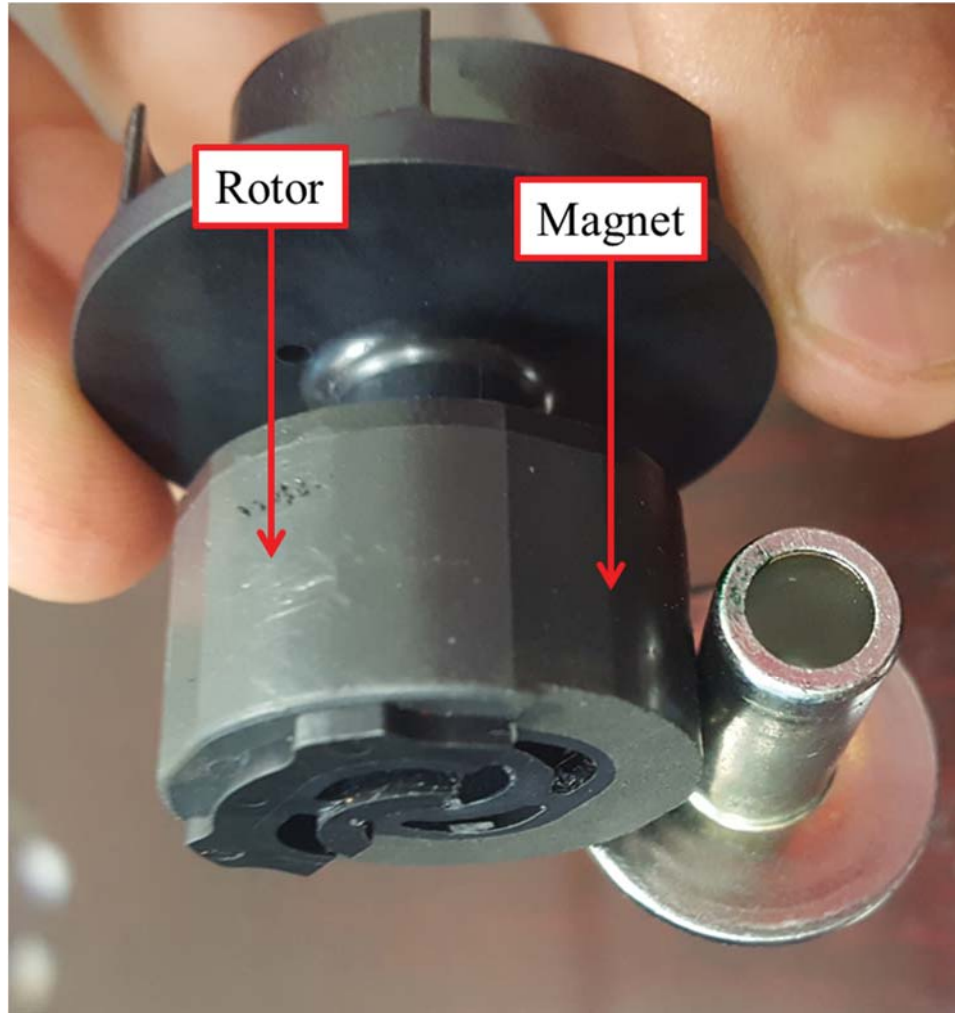
20160809\_100116.jpg

By way of further example, the Aisin Pump contains a stator assembly comprising poles with wire windings wrapped around said poles. The windings and poles, combined with the electric input, create a rotating magnetic field containing moving polarities. At least one (permanent) magnet is contained within a rotor, which sits in the middle of the stator assembly. The rotor screws into a molded space in the monolithic body of the motor of the Aisin Pump, such space being located in the middle of the stator assembly. This location situates the magnet in the center of the poles with copper wire windings

"14. A fluid-cooled motor comprising:"

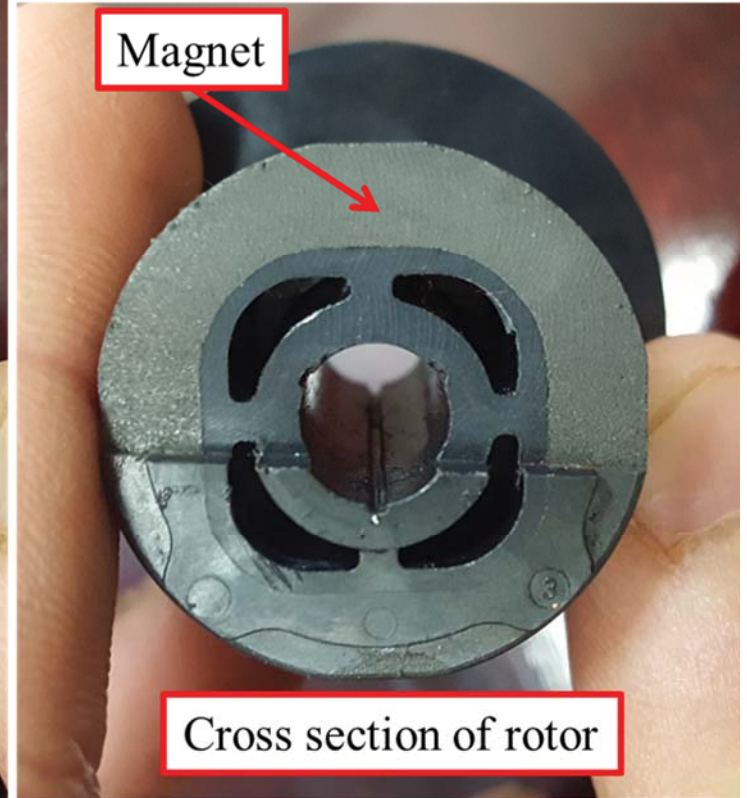
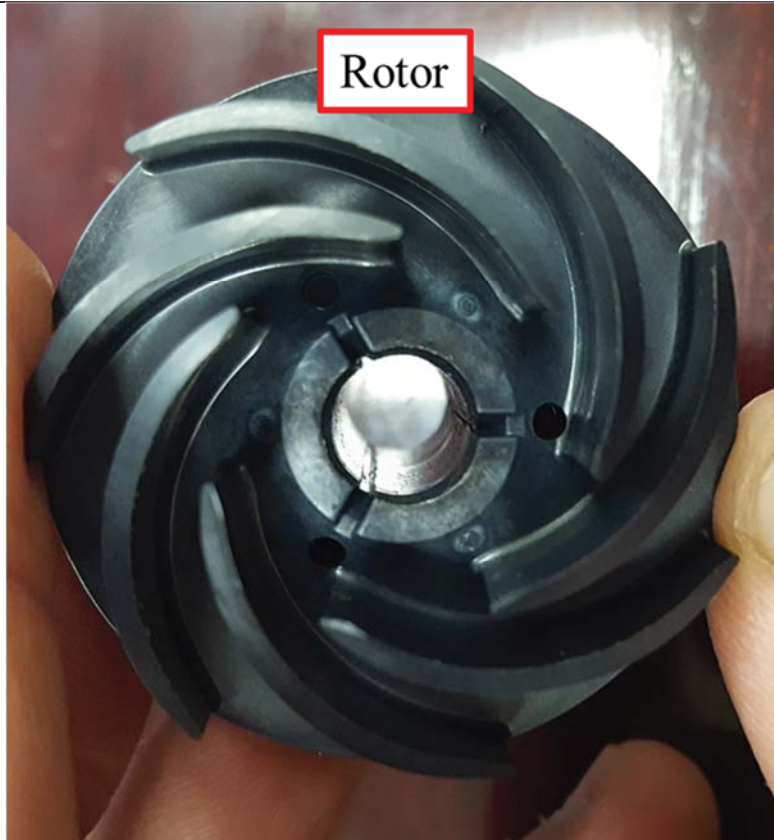
wrapped around them. The electric input provides a charge to these windings (conductors), which then allows the polarity of the poles to change. The magnet then rotates with the changing polarities of the poles.

Below is a picture of the permanent magnet of the rotor, the magnetic properties of which are displayed by the attraction of a metal object to the magnet:



20160817\_115132.jpg

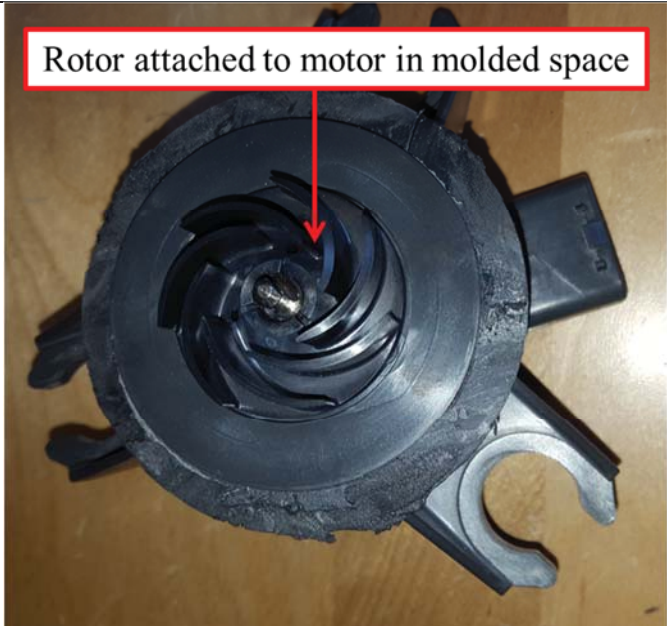
Pictured below is a cross section of the rotor shows the magnet within:



20160817\_111712.jpg, 20160817\_111855.jpg

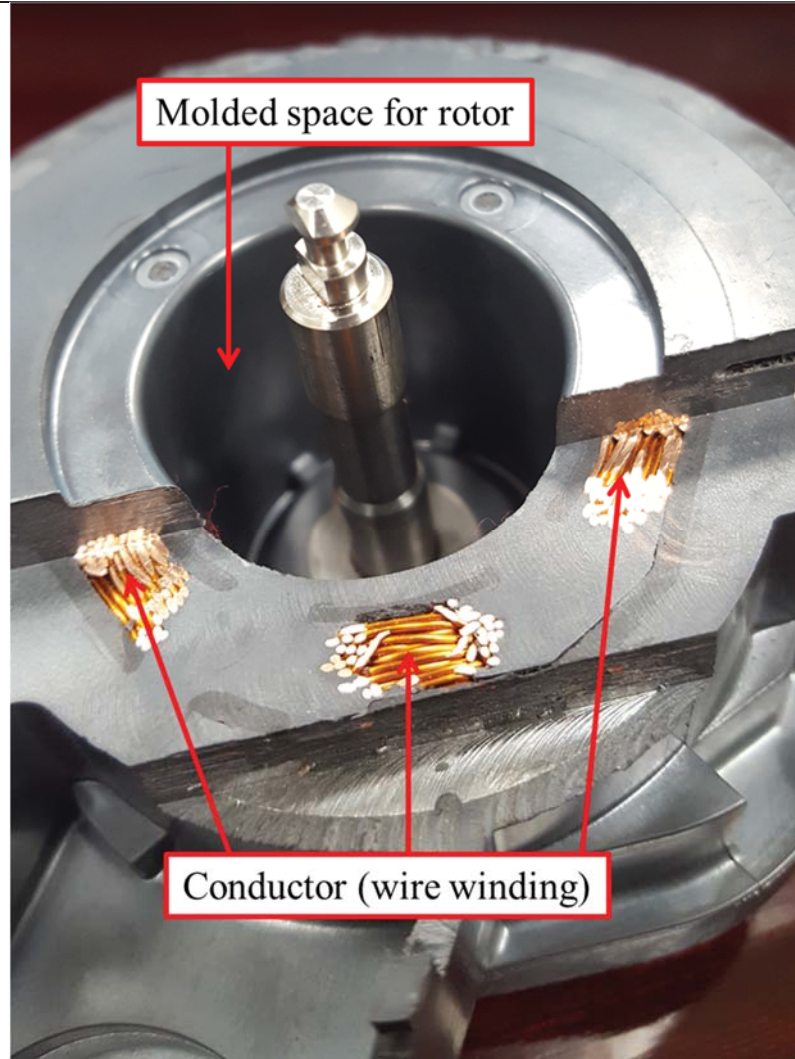
Pictured below is the monolithic body of the motor of the Aisin Pump displaying (1) the rotor within a molded space and (2) removed from the molded space;

"14. A fluid-cooled motor comprising:"



20160809\_101659.jpg, 20160809\_101718.jpg

Conductors (wire windings) situated around the molded space in which the rotor, containing the at least one magnet, sits:

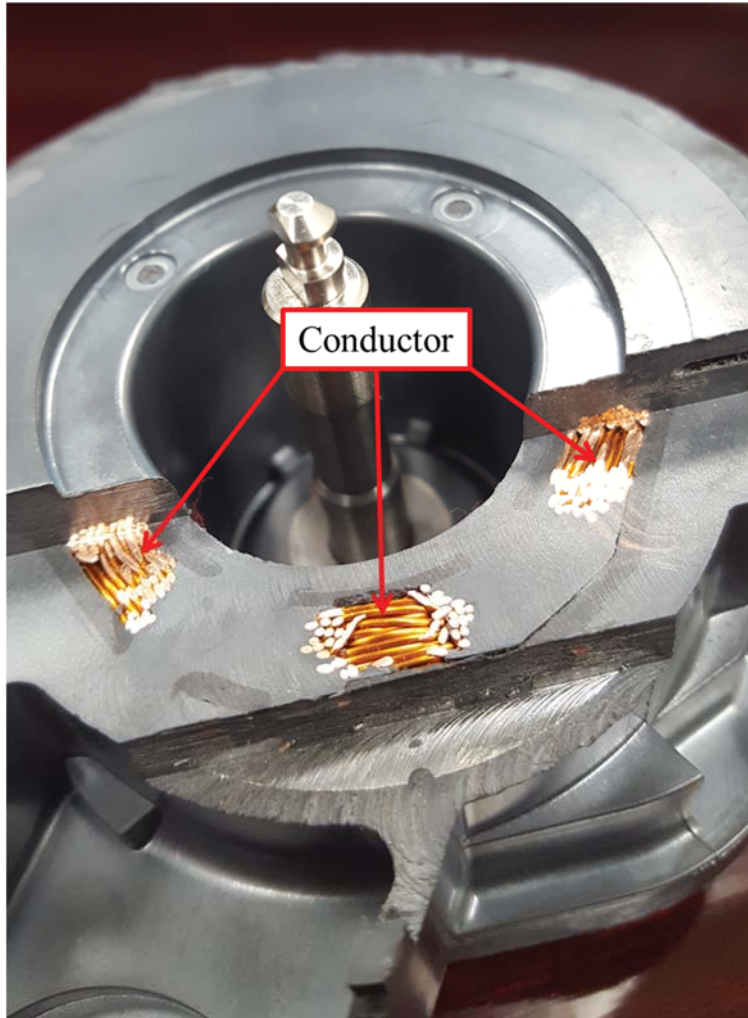


20160817\_111906.jpg

a) at least one electrical conductor;

The Aisin Pump comprises at least one electrical conductor.

As shown in the photo below, the Aisin Pump comprises copper wire windings that function as electrical conductors.



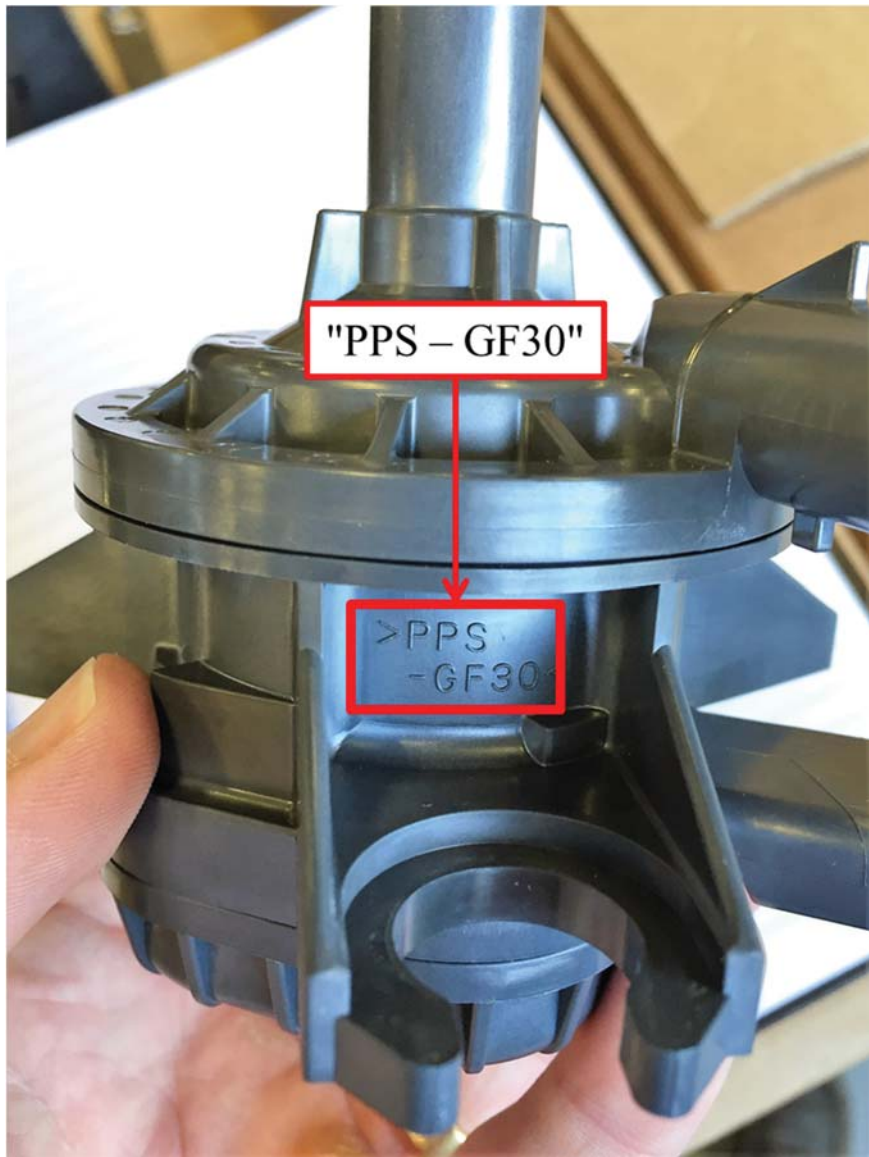
20160817\_111906.jpg

"b) a monolithic body of injection molded thermoplastic material"

b) a monolithic body of injection molded thermoplastic material

The Aisin Pump contains a monolithic body of injection molded thermoplastic material.

The Aisin Pump includes a "PPS – GF 30" label:





"b) a monolithic body of injection molded thermoplastic material"

IMG\_9989.JPG

"PPS – GF 30" refers to polyphenylene sulfide with 30% glass fiber filler ("PPS-GF30"). See, e.g., U.S. Patent Publication 2009/0173903 (application No. 12/295,565), at ¶ 0114 ("The abbreviations of the resin names in the tables above are as follows. PPS-GF30: Polyphenylene sulfide resin containing 30 wt % of glass fibers").

PPS-GF30 is a thermoplastic – the excerpt pictured below is a summary of its properties (including the categories of which it is a member, which includes "thermoplastic") from the MatWeb material property database.

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Searches: **Advanced** | Category | Property | Metals | Trade Name | Manufacturer | Recently Viewed Materials | PPS | SEARCH

### Overview of materials for Polyphenylene Sulfide (PPS) with 30% Glass Fiber Filler

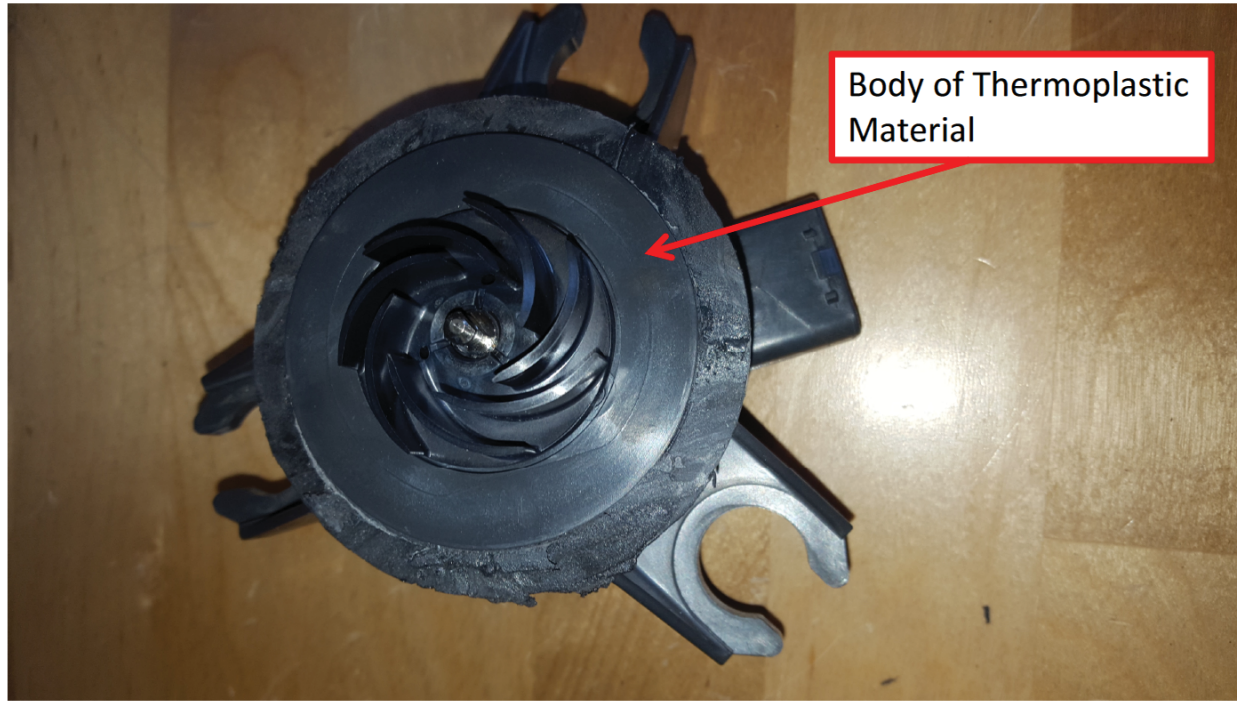
Categories: [Polymer](#); [Thermoplastic](#); [Polyphenylene Sulfide \(PPS\)](#); [Polyphenylene Sulfide \(PPS\) with 30% Glass Fiber Filler](#)

**Material Notes:** This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS) with 30% Glass Fiber Filler". Specific grades with glass content between 25% and 34% are included. Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

<http://www.matweb.com/search/DataSheet.aspx?MatGUID=c43bc743bdc0413ead2b87aca2e38a30&ckck=1> (downloaded Dec. 9, 2016)

The "PPS – GF 30" label on the Aisin Pump denotes that the plastic body of the Aisin Pump is made of this type of thermoplastic material.

"b) a monolithic body of injection molded thermoplastic material"



20160808\_101659.jpg

PPS – GF30 is a thermoplastic that is commonly used in injection molding processes to manufacture parts.

"b) a monolithic body of injection molded thermoplastic material"

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Home > Plastics > Generics > **Polyphenylene Sulfide (PPS)**

## Polyphenylene Sulfide (PPS) Plastic

**Polyphenylene Sulfide (PPS)** - [Manufacturers](#) - [Materials](#) - [Classification](#)

Polyphenylene Sulfide (PPS) - A crystalline polymer having a symmetrical, rigid backbone chain consisting of recurring p-substituted benzene rings and sulfur atoms. **A variety of grades suitable for slurry coating, fluidized-bed coating, electrostatic spraying, as well as injection and compression molding are offered.** Polyphenylene sulfides exhibit outstanding chemical resistance, thermal stability, dimensionally stability, and fire resistance. PPS's extreme inertness toward organic solvents, and inorganic salts and bases make for outstanding performance as a corrosion-resistant coating suitable for contact with foods.

<https://plastics.ulprospector.com/generics/41/polyphenylene-sulfide-pps> (accessed Dec. 15, 2016).

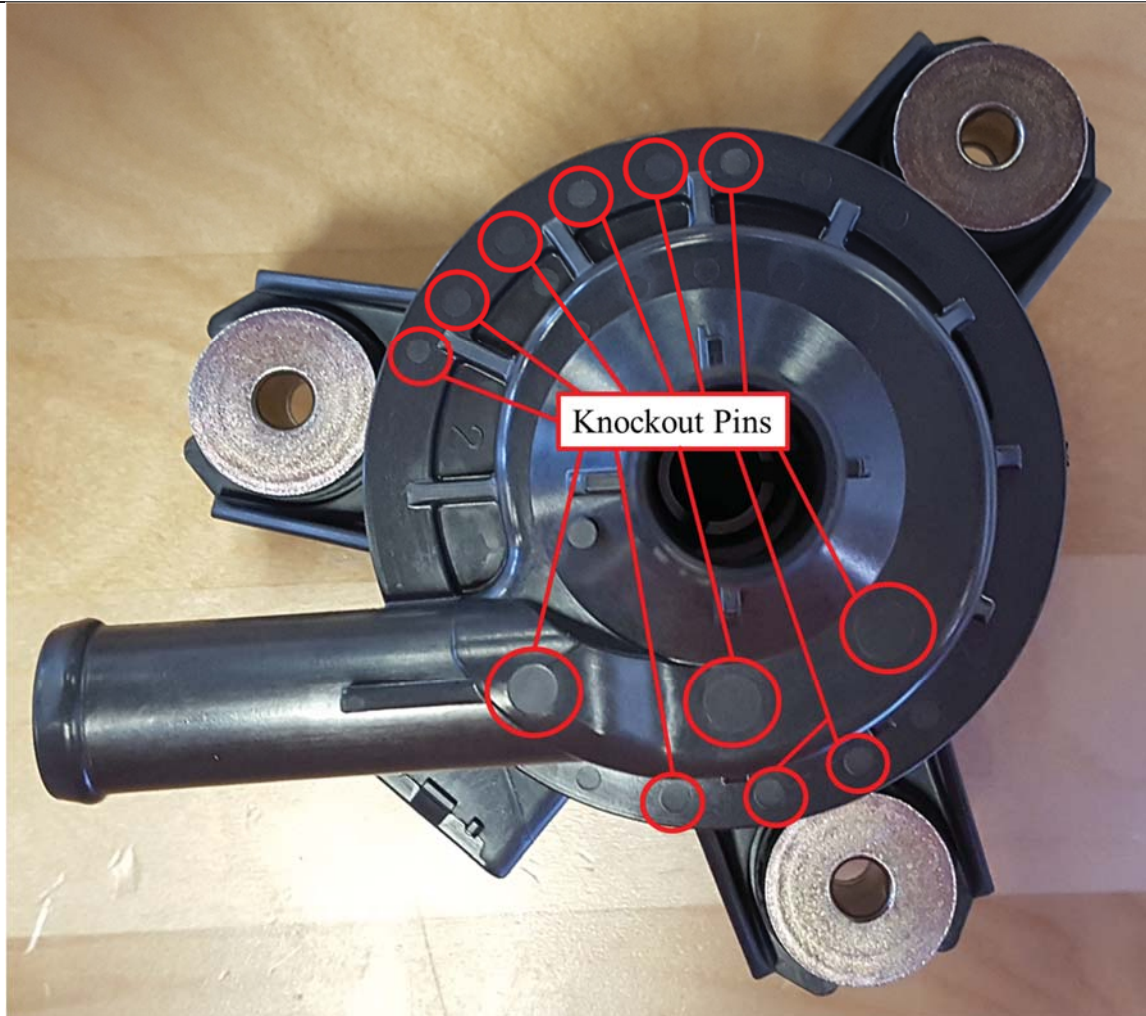
The monolithically formed body of the Aisin Pump contains markings that indicate it as manufactured using injection molding. As shown in the images below, the monolithically formed body of the Aisin Pump shows signs of gates and knockout pins, such markings being associated only with injection molded manufacturing.

"b) a monolithic body of injection molded thermoplastic material"



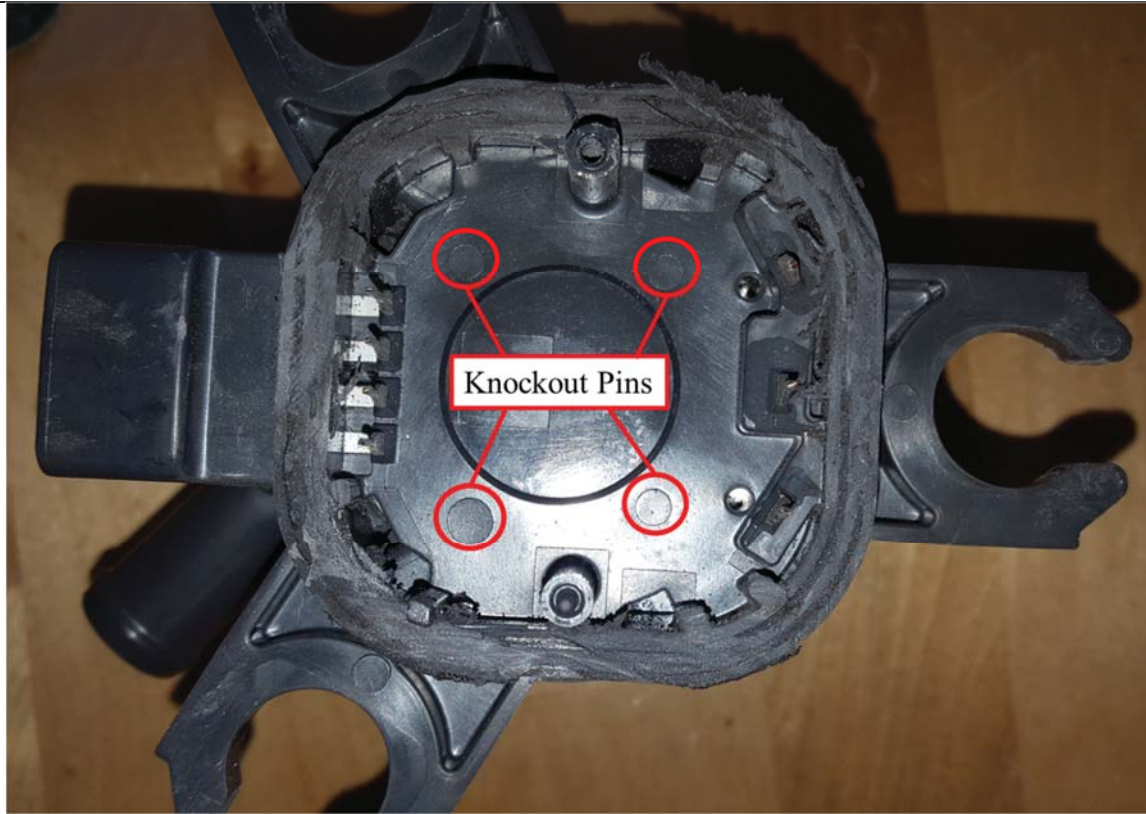
20160809\_102710.jpg

"b) a monolithic body of injection molded thermoplastic material"



20160808\_151740.jpg

"b) a monolithic body of injection molded thermoplastic material"



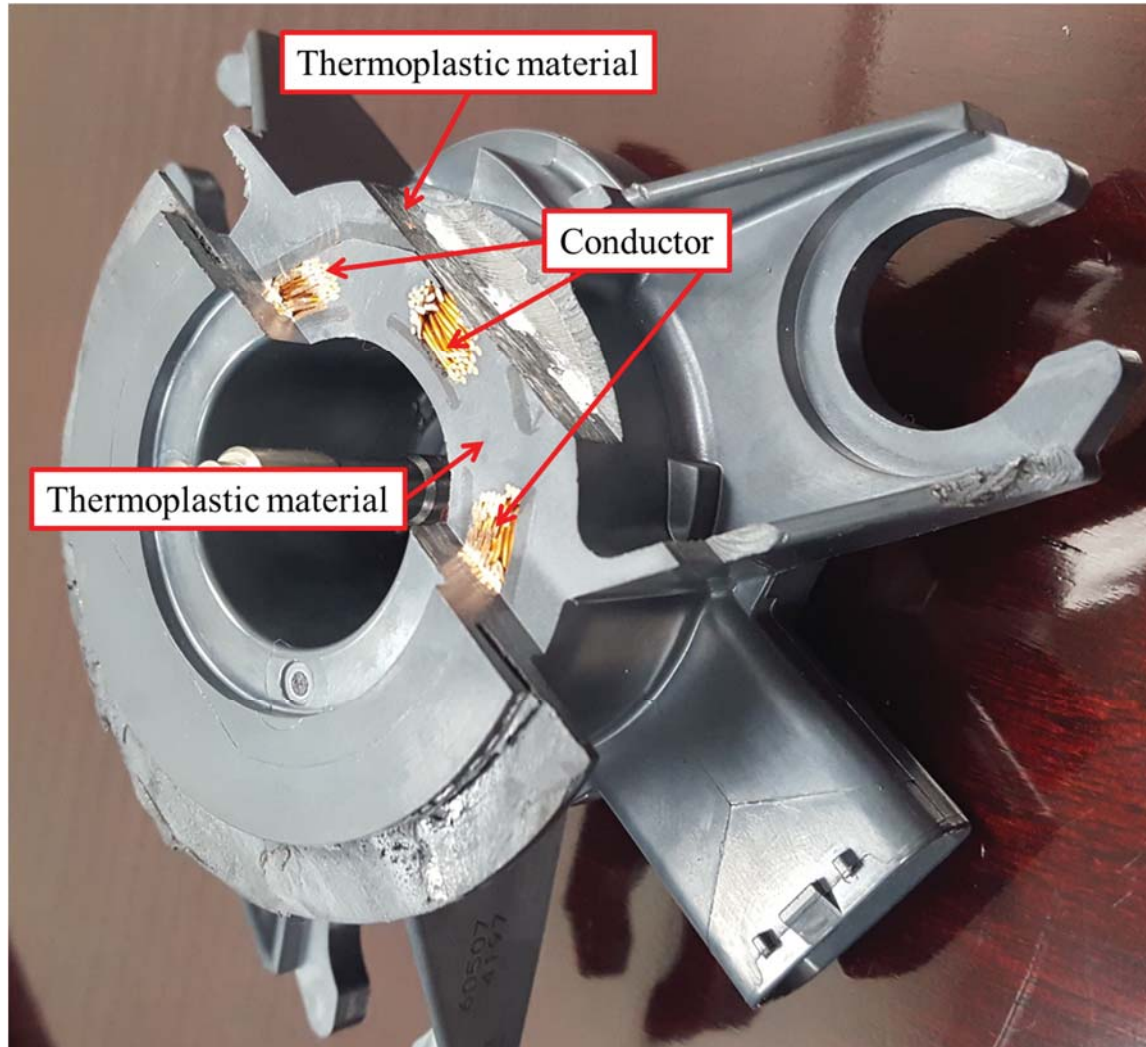
20160809\_100245.jpg

U.S. Patent No. 7,685,509, Claim 14  
"substantially encapsulating the at least one conductor; and"

substantially encapsulating  
the at least one conductor;  
and

The Aisni Pump comprises an injection molded thermoplastic material that substantially encapsulates the at least one conductor.

The image below shows that the thermoplastic material of which the Aisin Pump body is formed (described above) encapsulates the copper wire windings that operate as the at least one conductor.



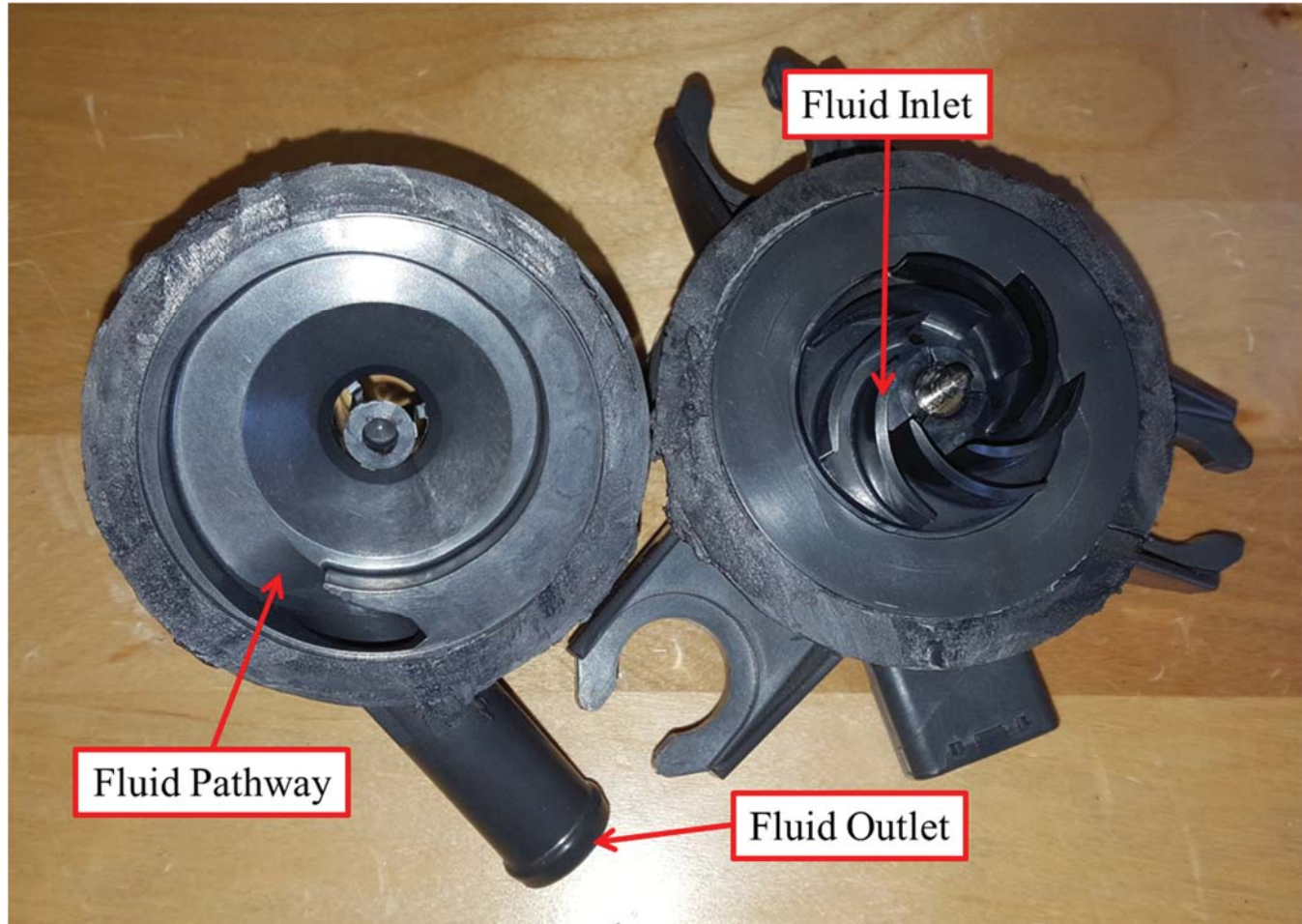
20160817\_105331.jpg

"c) a non-linear heat transfer fluid pathway in the monolithic body, with at least one fluid inlet and at least one fluid outlet to said pathway to allow for passage of heat transfer fluid through the pathway,"

c) a non-linear heat transfer fluid pathway in the monolithic body, with at least one fluid inlet and at least one fluid outlet to said pathway to allow for passage of heat transfer fluid through the pathway,

The Aisin Pump comprises a non-linear heat transfer fluid pathway in the monolithic body, with at least one fluid inlet and at least one fluid outlet to said pathway to allow for passage of heat transfer fluid through the pathway.

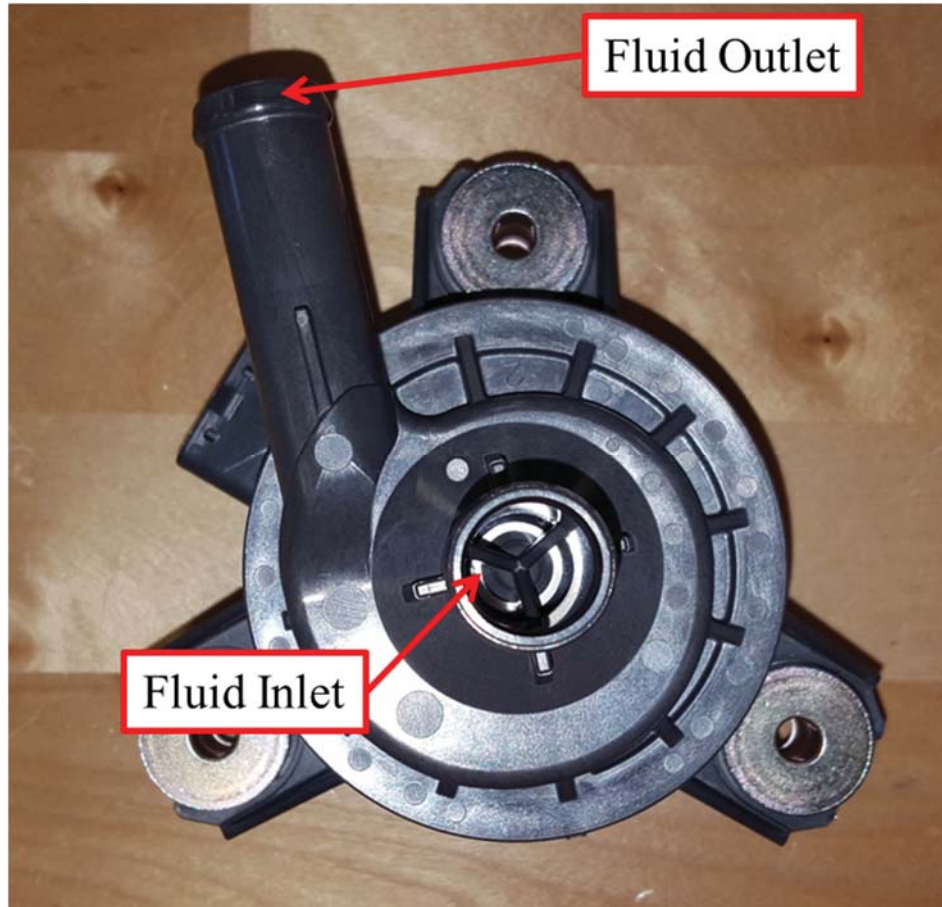
As shown below, the Aisin Pump comprises a curved heat transfer fluid pathway in the monolithic body described above. This pathway contains at least one fluid inlet and at least one fluid outlet for heat transfer fluid. The fluid inlet allows heat transfer fluid (e.g., air, water) to enter the fluid pathway and the fluid outlet allows the fluid to exit the pathway, thereby allowing passage of heat transfer fluid through the pathway.





"c) a non-linear heat transfer fluid pathway in the monolithic body, with at least one fluid inlet and at least one fluid outlet to said pathway to allow for passage of heat transfer fluid through the pathway,"

20160809\_101706.jpg



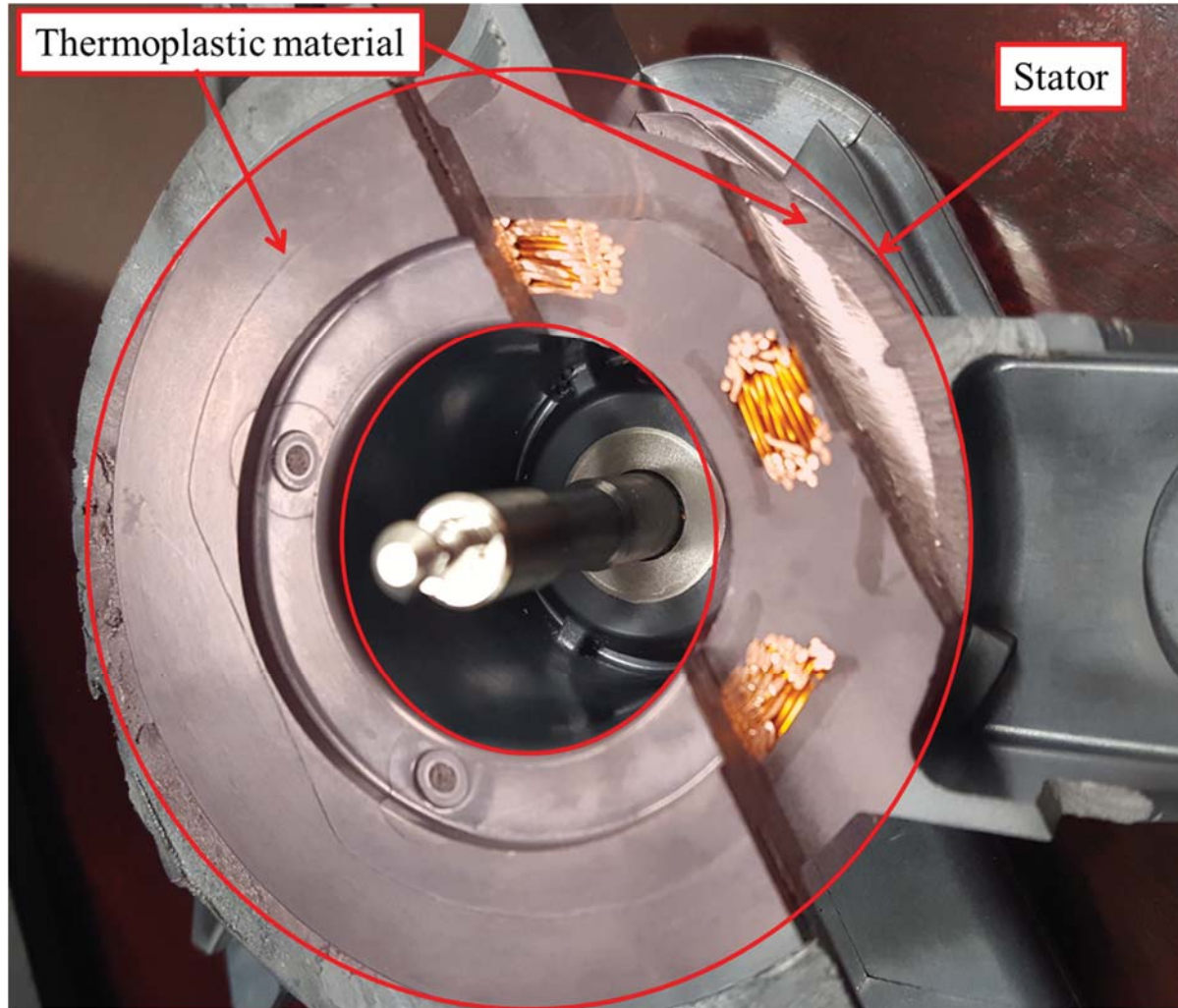
20160808\_151825.jpg

"wherein the monolithic body of injection molded thermoplastic material substantially encapsulates a stator of the motor."

wherein the monolithic body of injection molded thermoplastic material substantially encapsulates a stator of the motor.

The monolithic body of injection molded thermoplastic material of the Aisin Pump substantially encapsulates a stator of the motor.

As the images below show, the stator of the Aisin Pump is encapsulated by the injection molded thermoplastic material of the body of the motor.



20160817\_110225.jpg

U.S. Patent No. 7,683,509: Claim 14

"wherein the monolithic body of injection molded thermoplastic material substantially encapsulates a stator of the motor."

15. A pump comprising the motor of claim 14.	<i>See</i> Chart of Claim 14, above.
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