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# 914DNS

## Pressure and Density Transmitter

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### Features

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- Pressure and density transmitter.
- Low maintenance, quick calibration and configuration.
- Installation directly into pressurized vessels.
- HART technology provides ease of setup and diagnostics during operation.
- Easy installation with option for flanges ASME B16.5 or tri-clamp ISO 1127.

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## Summary

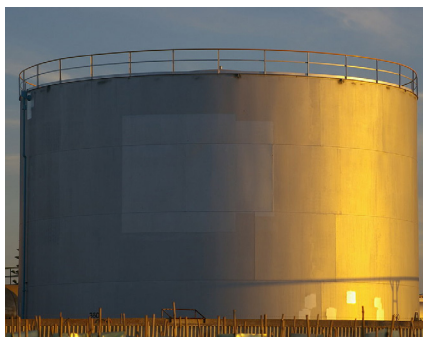
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Summary.....	2
Reliable and easy installation.....	3
Principle of operation .....	3
Sensor Benefits .....	3
Characteristics.....	4
Technological advancements.....	4
Technical specifications.....	5
Sales code.....	6
Mechanical dimensions.....	8
Electrical connections.....	9

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## *Reliable and easy installation*

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Direct installation on top or connecting vessel.



Installations in communicating vessels.



Installations in communicating vessels.

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## *Principle of operation*

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The capacitive pressure sensor allows the reading of differential pressures between two differential sources. By means of an oscillator connected to the capacitors the frequency reading is made without the need for A/D converters, resulting in high precision and repeatability.

The mechanical construction of this sensor offer a predictable behavior when there are changes in the static pressure and or temperature of the process, allowing for methods of compensation.

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## *Sensor Benefits*

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Easy installation with option for flanges ASME B16.5 or tri-clamp ISO 1127.

Measurement of product density, directly into the tank or via pressure communication vessel.

Suitable for aggressive products; vapors, gases and liquids.

Requires minimal maintenance and cleaning of pressure sensors.

System of compensation, facilitating the maintenance of the user.

Ideal for pressurized tanks and or process equipment.

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## *Characteristics*

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### *Reliability*

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Standard HART with more than 30 years of experience in the field.

CPU 16 BITS for fast processing of real-time signals.

Pressure reading with good immunity to changes in process conditions.

Good operation where other measurement technologies have instabilities.

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### *Flexibility*

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Mounting directly to the tank, or via pressure communication vessel.

Pressurized tanks with liquids, vapors and corrosive gases.

Sensors made of 316SST, Hastelloy 276 and Monel 400 for several products applications.

Diagnostics in pressurized environments without process interference.

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### *Installation*

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Ease of handling of the adapter flanges.

Allows installation on pre-existing NPT connections in tanks.

Preconfigured in the factory, or via HART communicators.

HART 7 protocol ensures operation with control and monitoring systems.

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## *Technological advancements*

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### *Minimized maintenance.*

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Robust and resistant to mechanical handling.

Configuration software with graphical interface for operational diagnostics.

Adjustments with process in operation.

Compensated for changes in the process.

Configuration tools available for computers, hand held tablet and cell phones.

Configurators with RS232 interface, USB and Wireless Bluetooth.

Bluetooth interface available for configuring hard to reach installations.

Configuration data can be saved, printed, or exported to spread sheet.

## Technical specifications

<b>General information</b>	
<b>Applications</b>	Liquids and high viscosity products
<b>Principle of operation</b>	Measurement by differential capacitors
<b>Communication signal</b>	4 to 20mA with protocol HART 7.0
<b>Read Signal</b>	Astable oscillator frequency between 200 and 2kHz..
<b>Regulation</b>	The F500-DT can be considered a non-intensional emitter
<b>Operating Humidity</b>	100% R.H.
<b>Weather location</b>	Not applicable
<b>Response Time</b>	Typical 0.2 Seconds
<b>Display</b>	Type TFT monochrome high contrast pixel 0.127mm
<b>Configuration</b>	Via local push buttons or HART communicators
<b>Supply Voltage</b>	12 A 50Vdc,bi-directional transorb protection
<b>Output signal</b>	4 to 20mA with HART protocol
<b>Accuracy</b>	+/- 0.1% Reading
<b>Resolution</b>	+/- 0.01% Reading
<b>Static pressure</b>	Same as flange pressure class
<b>Process connection</b>	Flange ASME B16.5 or tri-clamp ISO 1127
<b>O-Ring</b>	Not applicable
<b>Process pressure</b>	-150% to +150% operating range.
<b>Process temperature</b>	-40 to 125 C
<b>Room temperature</b>	-40 to 75 C

## Sales code

The 914DNS is versatile, offers quick installation and operation with proven technology that can be reconfigured in the field.

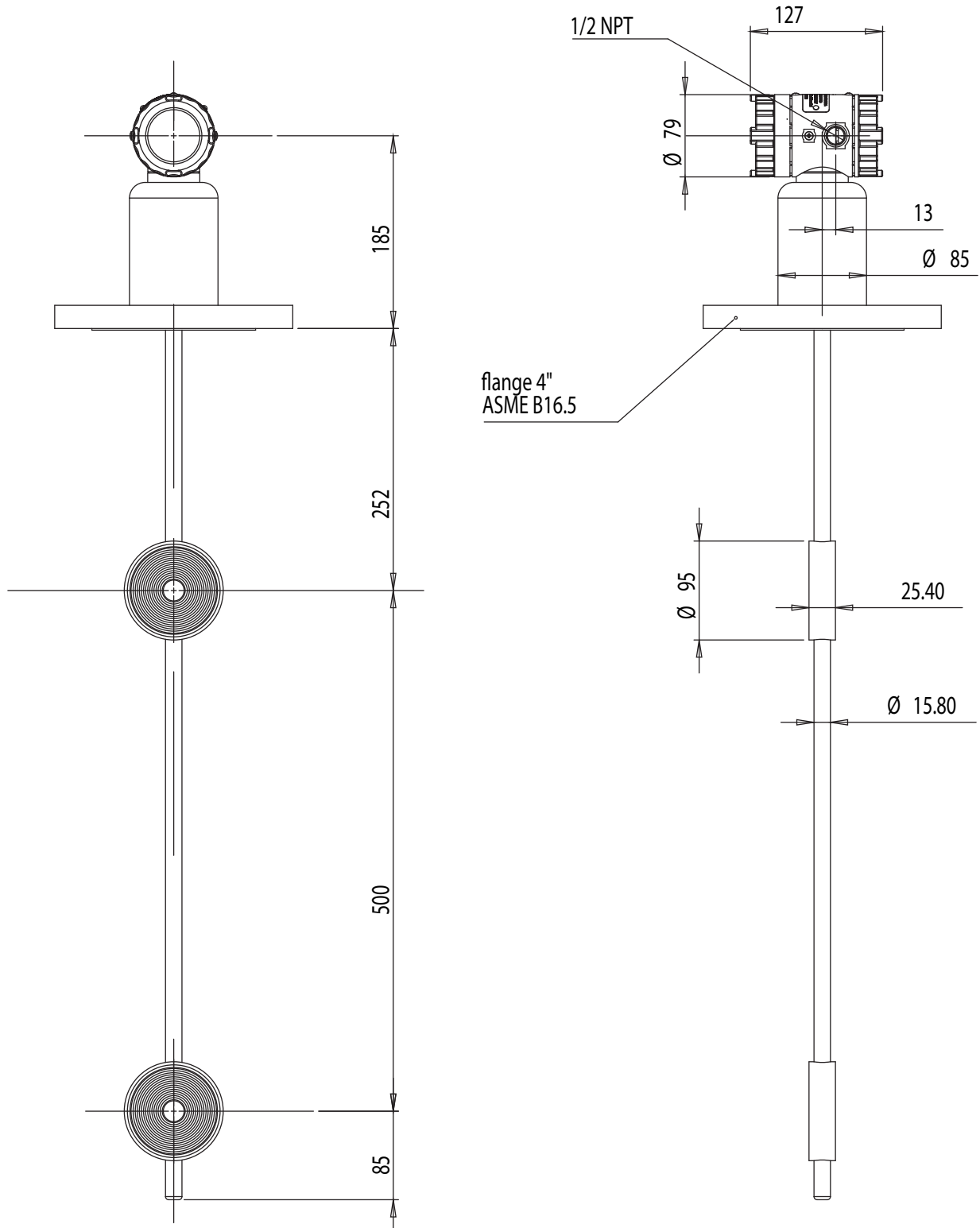
When selecting this product you should consider:

1. Great flexibility of applications with a variety of accessories and process connections, and several optional materials.
2. It has HART communication plus 4 to 20mA signal, which can be easily adapted for Profibus, Modbus, Bluetooth, and HART wireless.
3. The instrument can be pre-configured at the factory, or via HART communicators for greater flexibility during installation and maintenance.

914DNS	Pressure and Density Transmitter				
:	<b>Communication protocol</b>				
:	<b>H</b>	HART 7.0 - 4 to 20mA			
:	<b>F</b>	Fieldbus foundation			
:	<b>P</b>	Profibus PA			
:	:	<b>Working Range</b>	<b>Minimum Span</b>	<b>Nominal Span</b>	
:	:	<b>3</b>	Range 3	0.5 g/cm <sup>3</sup>	1.8 g/cm <sup>3</sup>
:	:	<b>4</b>	Range 4	1.0 g/cm <sup>3</sup>	2.5 g/cm <sup>3</sup>
:	:	<b>5</b>	Range 5	2.0 g/cm <sup>3</sup>	5.0 g/cm <sup>3</sup>
:	:	:	<b>Sensor Diaphragm</b>		
:	:	:	<b>I</b>	Stainless steel- SS316L	
:	:	:	<b>H</b>	Hastelloy C276	
:	:	:	<b>M</b>	Monel 400	
:	:	:	<b>T</b>	Tantalum	
:	:	:	<b>Z</b>	Others	
:	:	:	:	<b>Sensor Filling Fluid</b>	
:	:	:	:	<b>S</b>	Silicone Oil
:	:	:	:	<b>N</b>	Neobee (Food Grade)
:	:	:	:	<b>G</b>	Glycerine and water (Food Grade)
:	:	:	:	<b>Z</b>	Others
:	:	:	:	:	<b>Assembly at vessel</b>
:	:	:	:	<b>B</b>	Top
:	:	:	:	<b>V</b>	Lateral
:	:	:	:	:	<b>Carcass</b>
:	:	:	:	<b>A</b>	Aluminum with powder coating
:	:	:	:	<b>I</b>	Stainless steel SS303
:	:	:	:	:	<b>Electrical connection</b>

:	:	:	:	:	:	:	:	<b>1</b>	1/2" - 14 NPT
:	:	:	:	:	:	:	:	<b>2</b>	M20 x 1.5 mm
:	:	:	:	:	:	:	:		<b>Flanges</b>
:	:	:	:	:	:	:	:	<b>A</b>	ASME B16.5 diameter 4"
:	:	:	:	:	:	:	:	<b>D</b>	DIN 2526 diameter 100
:	:	:	:	:	:	:	:	<b>S</b>	Tri-Clamp ISO 1127 diameter 4"
:	:	:	:	:	:	:	:	<b>Z</b>	Others
:	:	:	:	:	:	:	:		<b>Pressure class</b>
:	:	:	:	:	:	:	:	<b>1</b>	150 psi or 10 Bar
:	:	:	:	:	:	:	:	<b>2</b>	300 psi or 20 Bar
:	:	:	:	:	:	:	:	<b>3</b>	600 psi or 45 Bar
:	:	:	:	:	:	:	:	<b>Z</b>	Others
<b>914DNS</b>	<b>H</b>	<b>3</b>	<b>I</b>	<b>S</b>	<b>B</b>	<b>A</b>	<b>1</b>	<b>A</b>	<b>1</b>

## Mechanical dimensions





## Electrical connections

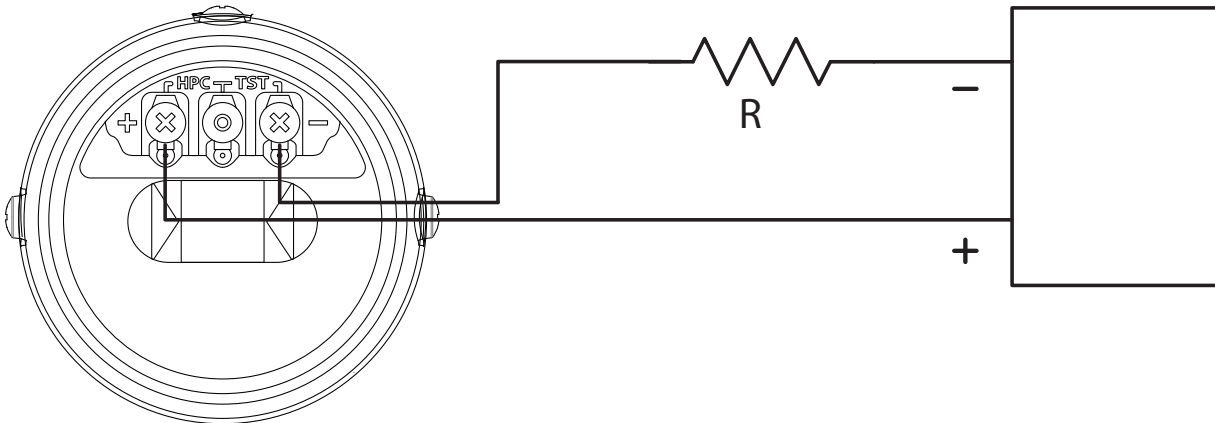


Fig. 1. - Connections with power supply.

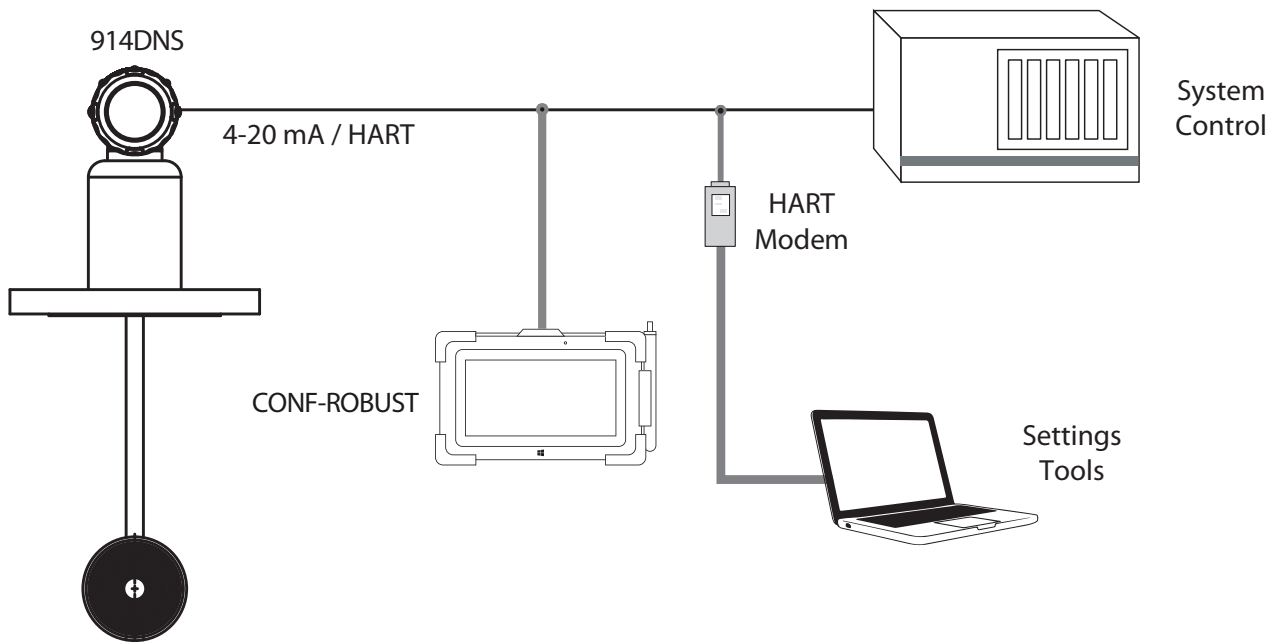


Fig. 2. - Connections for HART communication

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