

HEAVY DUTY PRESSURE TRANSDUCERS
MIP SERIES MEDIA COMPATIBILITY

Technical Note

When using a heavy duty pressure transducer across a variety of media, it is necessary to ensure that the device is able to operate with the desired media without adverse effects. To ensure compatibility, it is important to consider all the materials in the transducer with which the media will come into contact. The information in this Technical Note is intended to assist end users in understanding the media compatibility of the MIP Series Heavy Duty, Media-Isolated Pressure Transducers. (See Figure 1.)

FIGURE 1. MIP SERIES HEAVY DUTY, MEDIA-ISOLATED PRESSURE TRANSDUCERS



1.0 DESCRIPTION

Honeywell's MIP Series Heavy Duty, Media-Isolated Pressure Transducers are a line of configurable pressure transducers that use piezoresistive sensing technology with ASIC (Application Specific Integrated Circuit) signal conditioning in a stainless steel housing that is compatible with a variety of liquid and gaseous media.

Ultimately, it is up to the customer to determine if the transducer is compatible with the media and is right for the application. Honeywell can assist in this effort, utilizing our existing application knowledge and testing experience.

2.0 WETTED MATERIALS OF CONSTRUCTION

The MIP Series materials shown in Table 1 are in contact with the application's pressure media. The media needs to be compatible with all wetted materials used in the transducer's construction (i.e., ports, diaphragms, caps, and external seal rings). Even though a particular medium may be compatible initially, it is not uncommon for some media to undergo chemical changes over time. If this is possible in the end user's application, the changed media also needs to be validated as compatible with the wetted materials.

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The MIP Series hermetically-welded design supports almost any media without the use of an internal seal, eliminating the leakage risk associated with elastomeric O-rings and adhesives. These transducers are designed to be used in harsh environments that see aggressive media.

CAUTION

PRODUCT DAMAGE DUE TO PARTICULATES AND SATURATED AIR

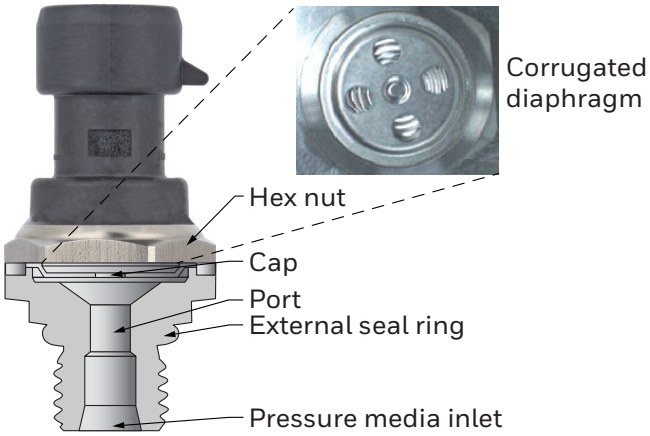
Ensure that filters are used upstream of the transducers to keep media flow free of large particulates. The MIP Series transducers are dead-end devices. Particulate accumulation may clog the port or damage the diaphragm.

Failure to comply with these instructions may result in product damage.

3.0 COMPATIBLE MEDIA

The MIP Series offers media-isolated pressure transducer in a compact, stainless steel construction for use with a wide range of media including corrosive fluids and water. The hermetically welded design, without any internal seals, supports use in harsh environments with corrosive media. Refer to Table 2 for a list of compatible fluids. (Compatible fluids are not limited to this list.)

TABLE 1. MIP SERIES WETTED MATERIALS



COMPONENT	MATERIAL	NOTES
Corrugated diaphragm and cap	stainless steel 316L	welded and hermetically sealed to one another
Port	stainless steel 304L	laser welded to hex nut
External seal ring for port	nitrile (other materials available)	no internal O-rings are used

TABLE 2. POTENTIAL APPLICATIONS AND MEDIA COMPATIBILITY

APPLICATION	MEDIA
Industrial	• pumps: water, hydraulic fluids • compressors: compressed air • process: food, beverage, oil, gas, steam
HVAC/R	refrigerants (butane, propane, ammonia, CO_2, R134A, R407C, R410A, R448A/Solstice® N40, R32 and R1234ze, R1234yf, glycol + water
Transportation	gasoline, diesel fuel, engine oil, brake fluid, coolants, CNG
Medical	O_2, N_2, CO_2, N_2O, air
Other	-

CAUTION

PRODUCT DAMAGE DUE TO MISUSE

- Ensure torque specifications are determined for the specific application. Values provided are for reference only. (Mating materials and thread sealants can result in significantly different torque values from one application to the next.)
- Use appropriate tools (such as an open ended wrench or deep well socket) to install transducers.
- Ensure that the proper mating electrical connector with a seal is used to connect the transducer. Improper or damaged seals can compromise ingress protection, leading to short circuits.
- Ensure that filters are used upstream of the transducers to keep media flow free of large particulates. MIP Series transducers are dead-end devices. Particulate accumulation may clog the port or damage the diaphragm.
- Ensure the transducer is installed with the port facing downwards. Any particulates in the system are less likely to enter and settle within the transducer if it is in this position.
- Ensure that the media does not create a residue when dried. Build-up inside the transducer may affect transducer output.

Failure to comply with these instructions may result in product damage.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.

FOR MORE INFORMATION

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Asia Pacific	+65 6355-2828
Europe	+44 1698 481481
USA/Canada	+1-302-613-4491

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Honeywell
Sensing and Internet of Things
9680 Old Bailes Road
Fort Mill, SC 29707
honeywell.com

008354-7-EN | 7 | 01/20
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