

HAND HELD DEW POINT METER AIDP24H

Description

This new microprocessor-based family based DEW point Transmitter is designed for a wide variety of Variable Gas Quality Test, Compressed air dryers, plastic dryers, additive manufacturing and other OEM applications. The ADP24H is Dew Point Hand Held with USB Data Logging system. Data will Log in CSV File.


AIDP24H
AIDP24C
AIDP24FC

Why is knowledge of dew point in compressed air important?

The importance of dew point temperature in compressed air depends on the intended use of the air. In many cases dew point is not critical (portable compressors for pneumatic tools, gas station tire filling systems, etc.). In some cases, dew point is important only because the pipes that carry the air are exposed to freezing temperatures, where a high dew point could result in freezing and blockage of the pipes. In many modern factories, compressed air is used to operate a variety of equipment, some of which may malfunction if condensation forms on internal parts. Certain water sensitive processes (e.g. paint spraying) that require compressed air may have specific dryness specifications. Finally, medical and pharmaceutical processes may treat water vapor and other gases as contaminants, requiring a very high level of purity.

What is the typical range of dew point temperatures to be found in compressed air?

Dew point temperatures in compressed air range from ambient down to $-80\text{ }^{\circ}\text{C}$ ($-112\text{ }^{\circ}\text{F}$), sometimes lower in special cases. Compressor systems without air drying capability tend to produce compressed air that is saturated at ambient temperature. Systems with refrigerant dryers pass the compressed air through some sort of cooled heat exchanger, causing water to condense out of the air stream. These systems typically produce air with a dew point no lower than $5\text{ }^{\circ}\text{C}$ ($23\text{ }^{\circ}\text{F}$). Desiccant drying systems absorb water vapor from the air stream and can produce air with a dew point of $-40\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}$) and drier if required.

What are the standards for the quality of compressed air?

ISO8573.1 is an international standard that specifies the quality of compressed air. The standard defines limits for three categories of air quality:

- * Maximum particle size for any remaining particles
- * Maximum allowable dew point temperature
- * Maximum remaining oil content

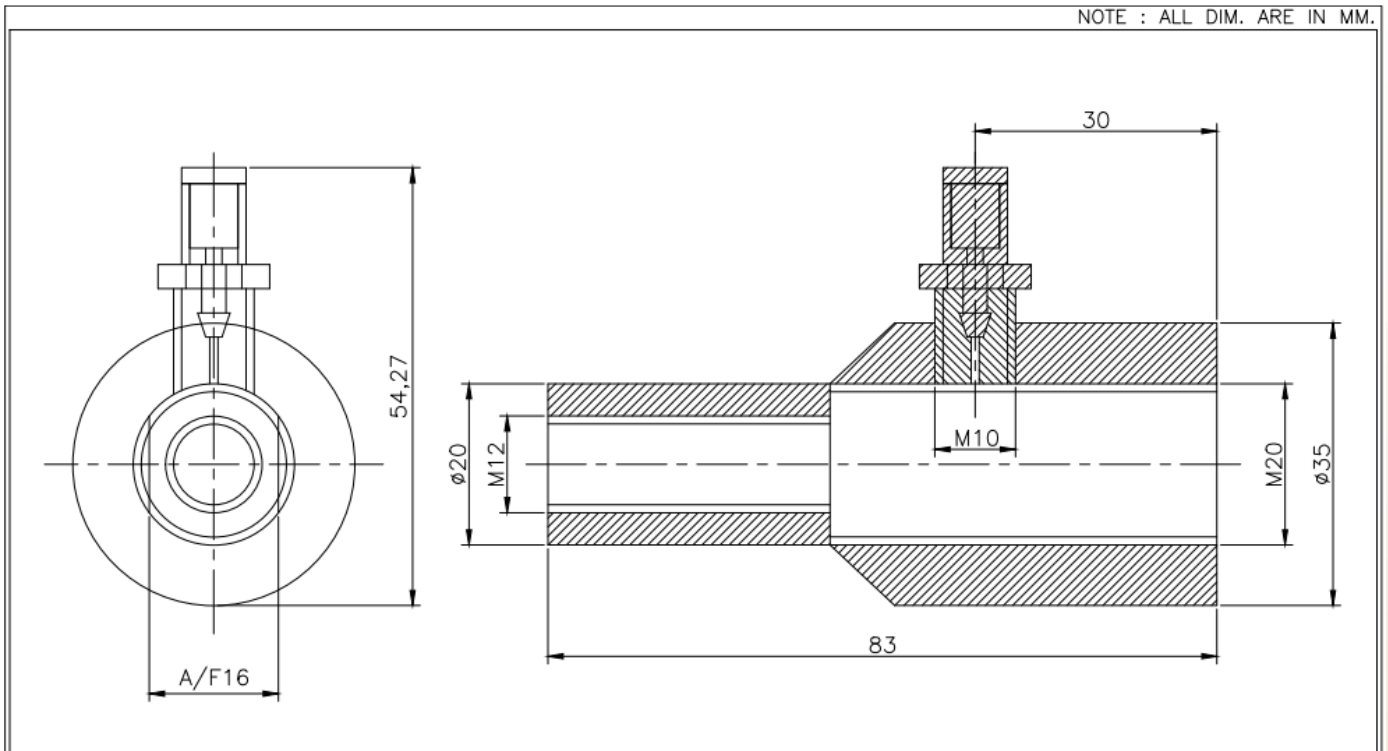
Each category is given a quality class number between 1 and 6 according to the reference values shown in the table below. As an example, a system that conforms to ISO8573.1 and is rated for class 1.1.1 will provide air with a dew point no higher than $-70\text{ }^{\circ}\text{C}$ ($-94\text{ }^{\circ}\text{F}$). All remaining particles in the air will be $0.1\text{ }\mu\text{m}$ or smaller, and the maximum oil content will be 0.01 mg/m^3 . There are other standards for compressed air quality, such as ANSI/ISA- 7.0.01-1996 for instrument air.

SPECIFICATIONS

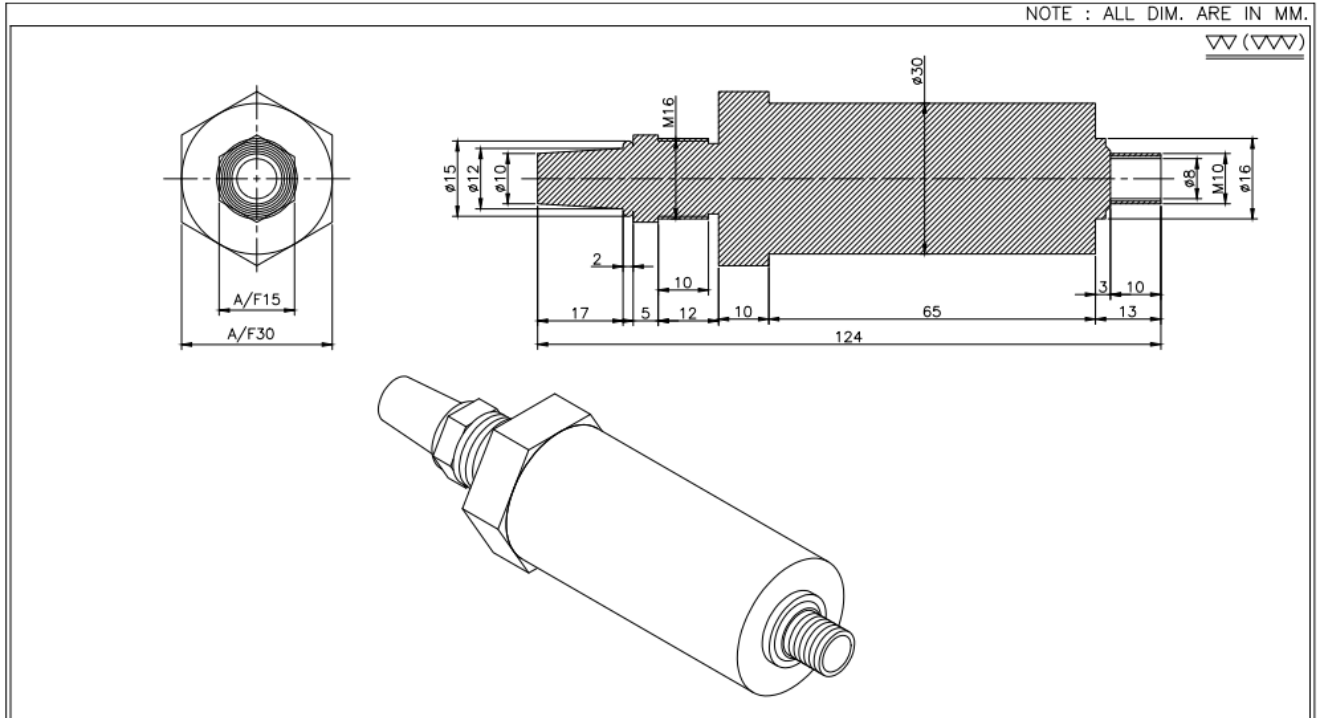
| SPECIFICATIONS | AIDP24H |
|-------------------------|----------------------|
| POWER | RECHARGEABLE BATTERY |
| RANGE | -110~60'C |
| DISPLAY | OLED LCD |
| DIGITAL OUTPUT | - |
| DATA LOGGING | USB |
| BATTERY HOURS | 8 HOURS |
| ACCURACY | + /- 2 'Cdp |
| OPERATING TEMPERATURE | - 40'C ~60'C |
| HOUSING MATERIAL | S.S.304 |
| MAX. DIRECT PRESSURE | 15 BAR |
| SENSOR CONNECTION | 1/2" BSP Male |
| DEW POINT SENSOR | AIDP24S |
| SENSOR FILTER MOC | S.S.316 |
| DEW POINT FLOW CELL | AIDP24FC |
| DEW POINT FLOW CELL MOC | S.S304 |
| INTERFACE CABLE | 3 METER |
| CARE CASE | ABS 1NOS |

| READING PERAMETERS |
|---------------------------|
| RELATIVE HUMIDITY % |
| TEMPERATURE IN 'C |
| TEMPERATURE IN 'F |
| TEMPERATURE IN 'K |
| DEW POINT IN 'C |
| DEW POINT IN 'F |
| DEW POINT IN 'K |
| SATURATED PRESSURE IN hPa |
| WATER PRESSURE IN hPa |
| ABSOLUTE HUMIDITY IN g/m3 |
| MIXING RATION g/Kg |
| ENTHELPHY IN Kj/Kg |
| PPM VOLUME DRY |
| PPM MASS DRY |
| PPM VOLUME WET |
| PPM MASS WET |
| PPM MOISTURE |

NOTE : ALL DIM. ARE IN MM.



| | | | | | | |
|---|-----------------------------------|---------------------------------------|----------|------------|--|--|
| 1) Qty.: 1 | 2) MATERIAL: ---MATERIAL--- | 3) FINISH SIZE: RAW-MATERIAL-SIZE | NAME | DATE | TITLE: | |
| 4) PROCESS: --- | | | DRN. BY | 30.04.2024 | G.A.DWG OF (DEWPOINT FLOWCELL) | |
| # ENTIRE PART HAVE ALL THE UNSPECIFIED FACES WITH EACH OTHER SHOULD BE PERPENDICULAR OR PARALLEL UP TO 0.05 MM. | | | CHD. BY | | | |
| # ENTIRE PART HAVE ALL THE UNSPECIFIED HOLES WHICH HAVE COMMON AXIS IT SHOULD BE CONCENTRIC UP TO 0.05 MM. | | | APPD. BY | | PROD. --- CODE SCALE: SCALE | |
| Remove Sharp Corners by 0.5x45° Chamfer | | SURFACE ROUGHNESS (Ra) VALUE (MICRON) | | | ARANKA INSTRUMENTS LLP. 50,NILKANTH INDUSTRIAL PARK,Nr.VATVA OVER BRIDGE VATVA PUNIT NAGAR ROAD,VATVA AHMEDABAD-382445 | |
| TOLERANCE FOR OPEN DIMNS. | | ROUGHNESS | ROUGH | FINE | | REF: REFERENCE --- DRAWING No. A4 SHEET: 1-OF-1 DRAWING ---NO. |
| OVER | 0 6 30 120 315 1000 2000 4000 | ROUGH | MACHINED | MACHINED | | |
| DIMEN | UP TO 6 30 120 315 1000 2000 4000 | ~ | ▽ | ▽ | | |
| TOLERANCE± | 0.1 0.2 0.3 0.5 0.8 1.2 2 3 | 25-50 | 8-25 | 1.6-8 | | |
| | | | | GROUND | SUPER FINISHING | |
| | | | | 0.025-1.6 | 0.025 | |



| | | | | | | | | | | | | | | | |
|---|---------------------------|-----------------------------------|---------------------------------------|----------------|-------------------------------|------|------|------|-----------|----------------|---------------|--------|-----------------|---|------------------------------------|
| 1) Qty.: 1 | 2) MATERIAL: --MATERIAL-- | 3) FINISH SIZE: RAW-MATERIAL-SIZE | NAME | DATE | TITLE: | | | | | | | | | | |
| 4) PROCESS: --- | | | DRN. BY | SANJAY | 30.04.2024 | | | | | | | | | | |
| # ENTIRE PART HAVE ALL THE UNSPECIFIED FACES WITH EACH OTHER SHOULD BE PERPENDICULAR OR PARALLEL UP TO 0.05 MM. | | | CHD. BY | | (DEWPOINT SENSOR) | | | | | | | | | | |
| # ENTIRE PART HAVE ALL THE UNSPECIFIED HOLES WHICH HAVE COMMON AXIS IT SHOULD BE CONCENTRIC UP TO 0.05 MM. | | | APPD. BY | | | | | | | | | | | | |
| Remove Sharp Corners by 0.5x45° Chamfer | | | SURFACE ROUGHNESS (Ra) VALUE (MICRON) | | PROD. --- CODE SCALE: SCALE | | | | | | | | | | |
| TOLERANCE FOR OPEN DIMMS. | | | ROUGHNESS | ROUGH MACHINED | FINE MACHINED | | | | | | | | | | |
| OVER | 0 | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | ROUGHNESS | ROUGH MACHINED | FINE MACHINED | GROUND | SUPER FINISHING | ARANKA INSTRUMENTS LLP. | REF: REFERENCE--- |
| DIMEN. | UP TO | 6 | 30 | 120 | 315 | 1000 | 2000 | 4000 | ~ | ▽ | ▽▽ | ▽▽▽ | ▽▽▽▽ | 50, NILKANTH INDUSTRIAL PARK, Nr. VATVA OVER BRIDGE | DRAWING No. A4 |
| TOLERANCE ± | | 0.1 | 0.2 | 0.3 | 0.5 | 0.8 | 1.2 | 2 | 3 | 25-50 | 8-25 | 1.6-8 | 0.025-1.6 | VATVA PUNIT NAGAR ROAD, VATVA AHMEDABAD-382445 | SHEET: 1-OF-1 DRAWING---NO. |

