



# **METPOINT**

**THE COMPLETE RANGE OF PRECISION  
CONTROL DEVICES FOR COMPRESSED AIR  
DEW POINT, FLOW, AND LEAKAGE**



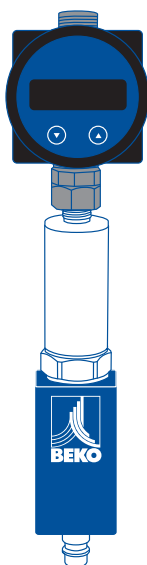
# METPOINT® DPMc

## Specification Sheet

### + Compact Dew Point Meter

#### Includes:

- › Self-contained pressure dew point sensor and single value display
- › Integrated measuring chamber
- › 115-230 VAC / 50-60 Hz power supply
- › Measurement range: -4°F to 104°F



### + Features and Benefits

**PRECISE:**  
long term stable dew point measurement

**SIMPLE MOUNTING:**  
1/4" female industrial quick discount

**ALL IN ONE UNIT:**  
integrated probe and measuring chamber with on-the-spot display of dew point

### + Technical Details

Dewpoint Sensor	
Measurement Range	-4°F...+86°F td
Sensor Type	Capacitive Polymer Sensor
Application Temperature	-13°F...140°F
Accuracy	≤±1K (tpd 14°F...104°F) ≤±2K (tpd -4°F...14°F)
Max. Operating Pressure	232 psig with MChamber, 725 psig without MChamber
Media Compatibility	Clean, oil free compressed air, Fluid Group II (filter and dried, ISO 8573 CLASS 2-4-2)
Sensor filter	Stainless steel sinter filter 40µm
Output Signal	4-20ma analog, 2-wire
Protection	IP65
Process Connection	BSP-P ½ external thread
Housing Material	1.4404 (316R) Stainless Steel
Supply Voltage	14... 30V DC

Display	
Display	Red LED-Display
Measurement Value	4-digits, 7mm height x 4.85mm width
Operation	2 keys (soft touch keypad)
Display Range	-1999 / 9999
Analog Output Display	4...20 mA / -4°F...+86°F td
Housing Material	Polycarbonate, IP65
Operating Temperature	-13°F...185°F
Data Memory	EEPROM (Electrically Erasable Programmable Read-Only Memory)
Accuracy	0.1% ± 1 digit
Supply Voltage	24V DC

Measurement Chamber	
Measurement Chamber	Compressed Air, Inert Gases Limited to Fluid Group II
Measurement Chamber Material	Aluminum
Max Pressure	232 psig
Media	Fluid Group II PED
Max Operating Temperature	+175°F
Connection	¼" Industrial Male Quick Disconnect



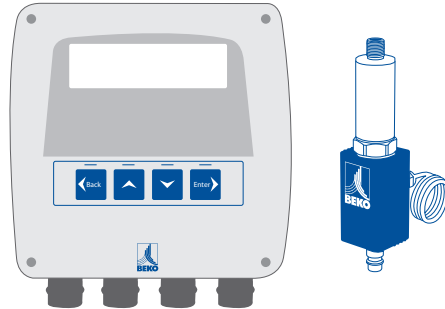
# METPOINT® DPM<sub>e</sub>

## Specification Sheet

### + Economy Dew Point Meter

#### Includes:

- › SD21 dew point sensor with measuring chamber
- › DD081 single value display, wall mountable
- › 115 VAC / 50-60 Hz power supply
- › 15' Connection cable
- › Measurement range: -76°F to 86°F



### + Features and Benefits

#### BUILT TO LAST:

only the highest quality components, such as stainless steel, are used in construction with unique design features for all sensors

#### HIGH MEASUREMENT ACCURACY:

measuring instruments are designed specifically for compressed air applications

#### INDEPENDENT RELIABILITY:

reliable measurement that is independent of temperature and pressure - no adjustment necessary

### + Technical Details

#### SD21 Series Dewpoint Sensor

Measuring Principle	Capacitive polymer sensor
Measured Variables	Dew point
Intended Measurement Medium	Compressed air or gases. Clean, oil-free compressed air, Fluid Group II.
Measurement Range	-76 to +86 °F td -22 to +158 °F measured gas temperature 0 to 100% rH
Measuring Accuracy	± 3.5 °F at -40 °F PDP ± 0.9 °F at +15 to +86 °F
Max. Operating Pressure	232 psig with MChamber, 725 psig without MChamber
Operating Temperature	-22 to +158 °F
Storage Temperature	-40 to 185 °F
Connection Size   Type	¼" Quick Disconnect Adapter
Analog Output	4...20 mA
Protection Class	IP65

#### DD081 Economy Display

Housing Dimensions (HxWxD)	4.65" x 3.62" x 3.66"
Housing Material	ABS plastic
Housing Protection Standard	IP 65
Connections	4 x M12 plastic connections for sensor, power supply and alarm relays
Sensor Inputs	1 analog sensor input
Power Supply for Sensors	110 VAC, 50/60 Hz
Interface Type	4-key keypad, on-device only, no software
Outputs	Single connection of 4-20 mA signal of dew point or consumption sensor (max. burden <500 ohm) 2 alarm relays, 230 VAC, 3 A
Display Type	½" height, red LED, 7 segment, 5 digit display
Operating Temperature	14 °F to 140 °F
Storage Temperature	-4 °F to 176 °F



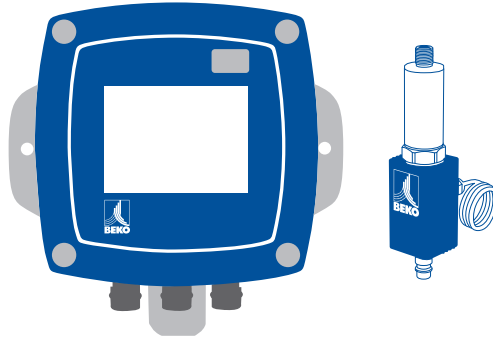
# METPOINT® DPMp

## Specification Sheet

### + Premium Dew Point Meter

#### Includes:

- › SD23 dew point sensor with measuring chamber
- › BDL Compact multi-function display, wall mountable
- › Full data log capabilities
- › 90 to 260 VAC / 50-60 Hz multi-voltage power supply
- › Connection cable
- › Measurement range: -76°F to 86°F
- › For custom configurations, see page 112



### + Features and Benefits

#### BUILT TO LAST:

only the highest quality components, such as stainless steel, are used in construction with unique design features for all sensors

#### HIGH MEASUREMENT ACCURACY:

measuring instruments are designed specifically for compressed air applications

#### INDEPENDENT RELIABILITY:

reliable measurement that is independent of temperature and pressure - no adjustment necessary

### + Technical Details

#### SD23 Series Dewpoint Sensor

Measuring Principle	Capacitive polymer sensor
Measured Variables	Dew point, temperature and humidity
Intended Measurement Medium	Compressed air or gases. Clean, oil-free compressed air, Fluid Group II.
Measurement Range	-76 to +86 °F td -22 to +158 °F measured gas temperature 0 to 100% rH
Measuring Accuracy	± 3.5 °F at -40 °F PDP ± 0.9 °F at +15 to +86 °F
Max. Operating Pressure	232 psig with MChamber, 725 psig without MChamber
Operating Temperature	-22 to +158 °F
Storage Temperature	-40 to 185 °F
Connection Size   Type	1/4" Quick Disconnect Adapter
Analog Output	4-20ma
Digital Output	Yes
Protection Class	IP65

#### BDL Compact Display

Housing Dimensions (HxWxD)	7.09" x 6.54" x 4.53"
Housing Material	Powder-coated aluminum, polyester front faceplate
Housing Protection Standard	IP 44
Connections	7 x M12 x 1.5 nickel-plated brass connections for sensor, power supply and alarm relays
Sensor Inputs	Base model is digital sensor inputs, expandable to one of the following configurations: 2 analog and 2 digital, 4 analog or 4 digital sensor inputs Max. number of sensor inputs per unit: 4
Data Logging	Up to 1,000,000 values / recording interval: min. 1 sec., max. 59 min. and 59 sec.
Power Supply for Sensors	24 VDC, max. 25 mA per sensor
Interface Type	USB stick, USB cable, Ethernet / RS 485 Modbus RTU / TCP, SDI other bus systems on request, integrated web server (all optional)
Outputs	Connection of 4-20 mA signals of dew point and consumption sensors (max. burden <500 ohm) 2 alarm relays, 230 VAC, 3 A
Memory Card	up to 4 GB
Display Type	Full color, 3.5" TFT touchpanel transmissive, with graphics, charts and statistics
Operating Temperature	33 °F to 122 °F
Storage Temperature	-4 °F to 158 °F



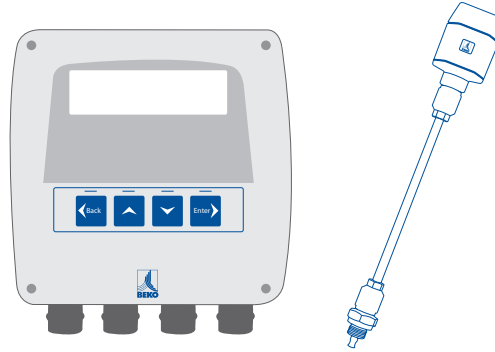
# METPOINT® FLMe

## Specification Sheet

### + Economy Flow Meter

#### Includes:

- › FS109 maximum speed flow sensor with adjustable probe for up to a 10" pipe
- › DD081 single value display, wall mountable
- › 115 VAC / 50-60 Hz power supply
- › Connection cable



### + Features and Benefits

#### BUILT TO LAST:

only the highest quality components, such as stainless steel, are used in construction with unique design features for all sensors

#### HIGH MEASUREMENT ACCURACY:

measuring instruments are designed specifically for compressed air applications

#### INDEPENDENT RELIABILITY:

reliable measurement that is independent of temperature and pressure - no adjustment necessary

### + Technical Details

#### FS109 Series Dewpoint Sensor

Measuring Principle	Calorimetric measurement
Measured Variables	Flow rate, CFM only
Intended Measurement Medium	Compressed air or gases
Measurement Range	0.12 to 23,275 scfm
Measuring Accuracy	± 3% of reading
Max. Operating Pressure	232 psig standard (725 psig optional)
Operating Temperature	Housing: -22 to +176 °F Sensor probe: -22 to +230 °F
Storage Temperature	-
Connection Size   Type	G ½"
Analog Output	4...20 mA
Digital Output	Yes
Protection Class	IP65

#### DD081 Economy Display

Housing Dimensions (HxWxD)	4.65" x 3.62" x 3.66"
Housing Material	ABS plastic
Housing Protection Standard	IP 65
Connections	4 x M12 plastic connections for sensor, power supply and alarm relays
Sensor Inputs	1 analog sensor input
Power Supply for Sensors	110 VAC, 50/60 Hz
Interface Type	4-key keypad, on-device only, no software
Outputs	Single connection of 4-20 mA signal of dew point or consumption sensor (max. burden <500 ohm) 2 alarm relays, 230 VAC, 3 A
Display Type	½" height, red LED, 7 segment, 5 digit display
Operating Temperature	14 °F to 140 °F
Storage Temperature	-4 °F to 176 °F



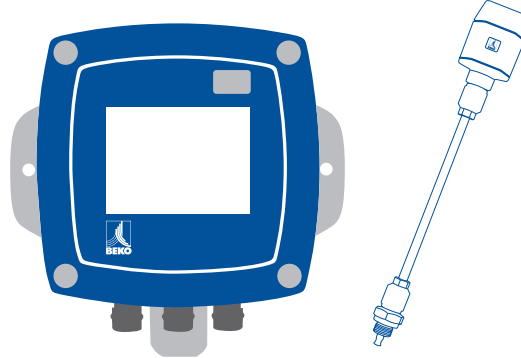
# METPOINT® FLMp

## Specification Sheet

### + Premium Flow Meter

#### Includes:

- › FS109 maximum speed flow sensor with adjustable probe for up to a 10" pipe
- › BDL Compact multi-function display, wall mountable
- › Full data log capabilities
- › 90 to 260 VAC / 50-60 Hz multi-voltage power supply
- › Connection cable
- › For custom configurations



### + Features and Benefits

#### BUILT TO LAST:

only the highest quality components, such as stainless steel, are used in construction with unique design features for all sensors

#### HIGH MEASUREMENT ACCURACY:

measuring instruments are designed specifically for compressed air applications

#### INDEPENDENT RELIABILITY:

reliable measurement that is independent of temperature and pressure - no adjustment necessary

### + Technical Details

#### FS109 Series Flow Sensor

Measuring Principle	Calorimetric measurement
Measured Variables	Flow rate, Total flow velocity (CFM, CF, Ft/min)
Intended Measurement Medium	Compressed air or gases
Measurement Range	0.12 to 23,275 scfm
Measuring Accuracy	± 3% of reading
Max. Operating Pressure	232 psig standard (725 psig optional)
Operating Temperature	Housing: -22 to +176 °F Sensor probe: -22 to +230 °F
Storage Temperature	-
Connection Size   Type	G ½"
Analog Output	4...20 mA
Digital Output	Yes
Protection Class	IP65

#### BDL Compact Display

Housing Dimensions (HxWxD)	7.09" x 6.54" x 4.53"
Housing Material	Powder-coated aluminum, polyester front faceplate
Housing Protection Standard	IP 44
Connections	7 x M12 x 1.5 nickel-plated brass connections for sensor, power supply and alarm relays
Sensor Inputs	Base model is 2 digital sensor inputs, expandable to one of the following configurations: 2 analog and 2 digital, 4 analog or 4 digital sensor inputs Max. number of sensor inputs per unit: 4
Data Logging	Up to 1,000,000 values / recording interval: min. 1 sec., max. 59 min. and 59 sec.
Power Supply for Sensors	24 VDC, max. 25 mA per sensor
Interface Type	USB stick, USB cable, Ethernet / RS 485 Modbus RTU / TCP, SDI other bus systems on request, integrated web server (all optional)
Outputs	Connection of 4-20 mA signals of dew point and consumption sensors (max. burden <500 ohm) 2 alarm relays, 230 VAC, 3 A
Memory Card	up to 4 GB
Display Type	Full color, 3.5" TFT touchpanel transmissive, with graphics, charts and statistics
Operating Temperature	33 °F to 122 °F
Storage Temperature	-4 °F to 158 °F

## METPOINT LKD LEAK DETECTION

### YOUR PROFITS EVAPORATE

Is your company making less profit than it should? Of course you can't know because second for second, this profit is vanishing into thin air. Inaudibly, invisibly, unnoticed.

**The reason: undetected leaks in the compressed air pipework.**

### EVER RISING COSTS

Although the chart is shown in Euro and compressor power in kW, the trend is true regardless of the measurement units used, and as you can see the impact on profitability is staggering.

Don't forget to take the conversion factors into consideration!



# +1:

#### RELIABLE MEASUREMENT

*Easy-to-use, one hand operation with the highest accuracy maximizes cost savings potential*

# +2:

#### ULTRASONIC TECHNOLOGY

*Advanced probe technology with increased sensitivity guarantees locating every leak*

# +3:

#### SAVING YOU ENERGY

*Quick return on investment, locating and tending to just four small diameter leaks per year saves thousands*

# +4:

#### INTEGRATED LASER / FOCUS TUBE

*Allow you to hone in on the exact location and detect the leak with pinpoint precision*

# +5:

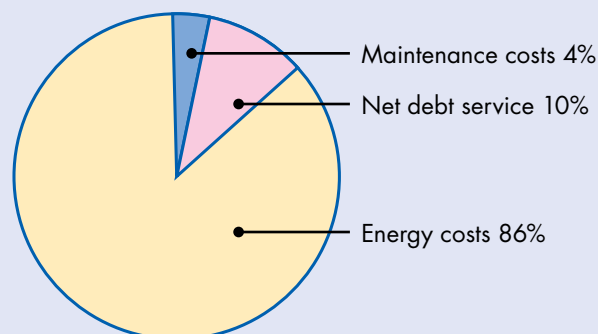
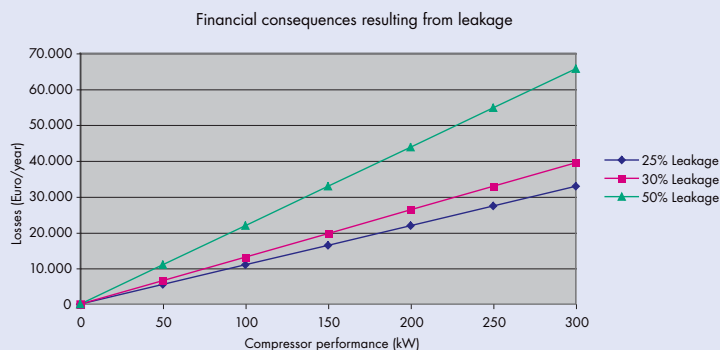
#### SUITABLE FOR VARIOUS APPLICATIONS

*Extensive range of options and accessories offer users maximum flexibility*



## FUNCTION

Where compressed air escapes, friction develops between the gas molecules and the pipe wall. This friction produces a high frequency ultrasound inaudible to the human ear. The METPOINT LKD registers the ultrasound, transforms it into an audible sound and indicates it optically. In this respect, only those frequencies are registered which will occur in the case of leakage. Thus, the precise location of the leak is easily identified even where industrial noise is present. Using the METPOINT LKD, the detection of compressed air losses at microcracks, worn-out flange joints, defective sealing rings or loosened connections no longer presents a problem.



## THE SOLUTION: THE BEKO METPOINT LKD

Detects each and every leak

- even at long distance (up to 50 ft.)
- also at places which are not easily accessible
- also without visibility

Optimizes your resources

- significantly reduced energy losses
- lower demand for an installed compressor performance
- reduced compressor wear and tear

## LOSS-FREE COMPRESSED AIR TRANSPORT IS THE KEY TO GOOD OPERATING PROFIT

Energy costs account for up to 86 % of operating costs.

Operating costs at 7500 hours per year



## TECHNICAL DATA

Power supply	9V battery, sufficient for at least 10 hours of operation
Frequency range	Designed to locate leaks
Sensitivity	Location up to a distance of 50 ft.
Connections	Headphones and a separate probe, unmistakable assignment
Housing	Aluminum
Dimensions	L x W x H = 6.8 x 2.3 x 2.0 in
Weight	0.88 lb



## METPOINT PRO CUSTOMIZABLE SOLUTIONS

Consider dew point, flow, leakage - everything previously mentioned. They all relate to each other, and each parameter when left unchecked can cost thousands of dollars per year in wasted energy. Now consider, measuring all of these parameters and more with one convenient, easy-to-use instrument.

For this reason, we have developed the METPOINT PRO series of complete compressed air monitoring solutions. Each METPOINT PRO is customizable to suit the user's specific needs, and they are available in either stationary or mobile configurations with up to six total sensor connections.

METPOINT PRO from **BEKO** are the perfect solution because of their precision measuring capabilities and superior, maintenance-free service life.



### +1:

#### **HIGH MEASUREMENT ACCURACY**

*The polymer sensor ensures the most accurate reading of system dew points*

### +2:

#### **DURABILITY AND RELIABILITY**

*The materials used are non-corrodible and dirt repellent*

### +3:

#### **SPECIFICALLY FOR COMPRESSED AIR**

*Precise and accurate measurement with quick, responsive display of measured values*

### +4:

#### **MODULAR SYSTEM**

*Fully expandable with up to six sensors per station and up to 256 displays via bus system*

### +5:

#### **SUITABLE FOR VARIOUS APPLICATIONS**

*Portable and stationary versions offer users maximum flexibility*

## THE METPOINT PRO SERIES

**Available in either stationary or mobile configurations to suit every application.**

Each unit is truly “all-in-one” utilizing a single, intelligent, multi-function display. Based on this singular display unit, almost endless variations and options are available to fully optimize every last facet of your compressed air or gas line. By measuring the various parameters available to the user, plants can operate with maximum energy efficiency, increased production results, and absolute control over energy consumption and the associated savings.

### Measuring capabilities:

- Pressure Dew Point
- Air Flow
- Pressure
- Current
- Temperature

These all inclusive packages also feature, as standard, 4 to 20 mA output signals, two alarm relays, and USB connectivity. Full data logging with 1,000,000 data transmission capacity comes standard, and when used in conjunction with the optional software package, creates the perfect analytical tool down to the finest detail.

In addition to being a completely customizable user solution and all of the standard features, the METPOINT PRO series has several options to ease installation from an engraved depth scale on the flow meter sensor, to special spot drilling collars and drilling jigs.

Every detail has been carefully thought out and considered to guarantee the maximum return on investment in the shortest amount of time possible. The true all-around solution, the METPOINT PRO series from **BEKO**.



## OPTIONS AND ACCESORIES FOR THE METPOINT PRO SERIES



The METPOINT PRO comes standard with advanced analog and electronic outputs that offer users complete control over their system.

In addition to the variety of sensor arrays that can be attached to the METPOINT PRO, there are several accessories available providing distinct technological advantages.

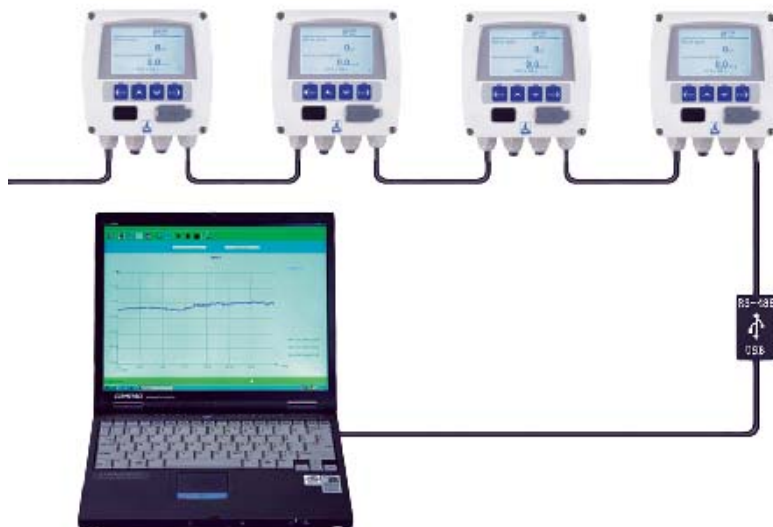
Beyond simple lights and buzzers, the METPOINT PRO series allow users full diagnostic control over all active sensors via your PC whether on or off-site.

### OPTIONAL RS 485 PORT

By the addition of the optional RS 485 port to the METPOINT PRO S up to 256 stations are connectable, and up to 32 units can be displayed simultaneously on the PC for complete evaluation via the BEKO Software. You can now have a total care package at your fingertips for the entire plant for all relevant compressed air or gas parameters in use.

Furthermore, each METPOINT PRO S is available with an optional ethernet interface, bringing each METPOINT PRO S unit "online."

The METPOINT PRO series far surpasses typical compressed air monitoring tools by providing true 21<sup>st</sup> century solutions that are future-proof, and expandable to suit ever changing plant requirements. With a low cost initial investment, you have ensured exponential long-term savings that could never be recouped otherwise - only with the METPOINT PRO series.



### INSTALLATION UNDER PRESSURE



By employing the use of the optional spot drilling collar and special drilling jig, probe installation directly into a pressurized pipe is an easy, and painless process without any disruption.



### OPTIONAL MEASURING CHAMBERS



High Pressure Chamber  
for up to 5,000 psig



Atmospheric Chamber  
for atmospheric dew point



Respiratory Air Chamber  
for up to 5,000 psig



Granulate Dryer Chamber  
for up to 3.6 psig

## TECHNICAL DATA OF THE MULTI-FUNCTION DISPLAY

Wall Mount Dimensions (in)	4.65 x 4.53 x 3.66
Cabinet Mount Dimensions (in)	3.62 x 3.62
Housing Protection	IP65
Operating Temperature	+32 to +122 °F
Transport Temperature	-4 to +158 °F
Sensor Inputs	Available with 2 (X2), 4 (X4), or 6 (X6) sensor inputs (2 digital with up to 4 additional analog inputs)
Interface	USB
Keypad	4 keys
Power Supply	100 . . . 240 VAC / 50-60 Hz / 10 VA
Display	Graphic Display, 160 x 100 pixels
Alarm Output	2 relays, 230 VAC, 3 A, volt-free, change over contact
Analog Output	Connection of 4 to 20 mA signals of dew point and consumption sensors (max. burden < 500 Ohm)
Integrated Data Logger	up to 1,000,000 values recording intervals: min. 1 sec. / max. 59 min. 59 sec.



## AVAILABLE SENSORS FOR METPOINT PRO (FOR X2, X4, OR X6 MODELS)

### Consumption Sensors

Maximum Version 185.0 m/s, 220 mm probe length (standard equipment)

High Speed Version 224.0 m/s

Sensor Length: 120 mm

Sensor Length: 160 mm

Sensor Length: 300 mm

Sensor Length: 400 mm

### Dew Point Sensors

Dew Point: -112 °F to +68 °F

Dew Point: -4 °F to +122 °F

### Pressure Sensors

Precision Model 0 to 232 psig (± 0.5% accuracy of full scale)

Precision Model 0 to 580 psig (± 0.5% accuracy of full scale)

Standard Model 0 to 232 psig (± 1.0% accuracy of full scale)

Standard Model 0 to 580 psig (± 1.0% accuracy of full scale)

### Temperature Sensors

Screw-in Temperature Probe Pt 100, Class A, length 300 mm, Ø 6 mm with measuring transducer

Indoor / Outdoor Temperature Probe Pt 100, Class A

Indoor / Outdoor Temperature Probe Pt 100, Class A with measuring transducer

### Ampmeter Sensors

Clamp-on Ampmeter 0...500 A AC including 15 ft. cable





# HIGH QUALITY COMPRESSED AIR FROM BEKO

*The quality of your compressed air.*

## RELIABLE

The highest level of operational reliability is guaranteed with every product that BEKO manufactures.

## EFFICIENT

Maximum energy efficiency and conservation are guiding principles of every product design.

## ECONOMIC

Products that provide the quickest return on investment in the industry with the least amount of risk.

## EFFECTIVE

German engineered with no compromises on quality.

## EXPERIENCE

More than 25 years of industry leading experience stands behind our entire product offering.

## SOLUTIONS

Your single source for a range of performance compressed air products designed to work in synergy.

*Compressed air treatment and condensate technology.  
The complete program. Worldwide.*



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