



Operating manual

DP 300

DP 300 mobile dew point instrument

For measuring pressure dew point and atmospheric dew point

in different applications:

- Compressed air plants (refrigeration/adsorption dryer)
- Granule dryers
- Medical gases
- Non corrosive gas, e.g. nitrogen, SF6...



Instrument conforms to DIN EN 61326-1



Notes on safety!

Please read prior operation.

- Standard version, only suitable for operating pressure up to 50 bar.
Do not exceed!
- Observe measuring ranges of the sensor!
- The probes are damaged if overheated.
- Observe maximal storage and transport temperature.

Warranty claims or calibration should be carried out by a qualified measurement and control engineering staff only.

Important: Before installing briefly bleed the compressed air in order to remove condensate and particles. This prevents soiling the instrument DP 300.
Standing air leads to longer response times.



Introduction:

Keeping a specific dew point is requirement for a trouble free plant operation. The mobile dew point measuring instrument DP300 is the ideal service instrument in a handy case. It measures relative humidity, temperature and the dew point up to 50 bars, easy, fast without annoying cable.

With the pc software the measured data can be recorded in an Excel file. There, further parameters can be selected: ppm, g/m³, mg/m³, g/kg, atmospheric dew point.

We generally recommend using a measuring chamber.

Screw in the DP 300 in the measuring chamber, you can also use a diffusion tight Teflon Tube with fast coupling:

Advantage:

- + **Easy mounting and dismounting**
- + **Fast response time**

Measurable gases:

In general humidity can be measured in all non corrosive active gases.

Order data:

Description:

Order no.

Set DP 300 consisting of:

XZDPMO 207

- Dew point instrument DP300 up to 50 bar incl. battery
- Standard chamber up to 16 bar
- Diffusion-tight Teflon cable 1 m with fast connection
- Mains unit for storage battery charging and long time measurement
- Control and calibration set 11,3 % RH
- Transport case

Instruction:



1. On/Off switch



2. Scroll function to select between °C dew point, % relative humidity or °C ambient temperature



3. Max/Min to choose between the highest and lowest value since starting the instrument



Service/calibration/adjustment

According to DIN ISO certification of the measuring instruments we recommend to calibrate and, if applicable, to adjust the instrument regularly by the manufacturer.

Dear customer,

Thank you for your confidence in BEKO Technologies. You have made the right choice by choosing a quality product. If you have reason for complaint we will repair any faults free of charge if it can be proven that they are manufacturing faults.

The fault should be reported immediately after it has been found and within the warranty time guaranteed by us.

Excluded from this warranty is damage caused by improper use and non adherence to the instruction manual.

The warranty is also cancelled once the instrument has been opened. This also is the case if the serial number has been changed damaged or removed.

The warranty time is 12 months for the instrument, 6 months for accessory parts. Warranty services do not extend the warranty time.

If, in addition to the warranty service, necessary repairs, adjustment or similar are carried out, the warranty service are free of charge. But there is a charge for other services such as transport and packaging costs.

Other claims, especially those for damage occurring outside the instrument, are not included unless responsibility is legally binding.

After sales service after the warranty time has elapsed

Of course we will provide you with service and help after the warranty time has elapsed. Please call us.



Technical data

Measuring range:	-80..50 °C td -20..70°C 0..100 % rH Via PC Software alternatively to the dew point further parameters can be displayed software: ppm V/V, atmospheric dew point, g/m ³ , mg/m ³ , g/kg and °F. Via PC Software
T90 response time: (90% of measured value)	10 s from -60 → -20 °C td 3 min von -20 → -60 °C td
Pressure range:	-1 up to 50 bar standard
Display:	one line, resolution 0,1 Dew point (°C td) Relative humidity (% RH) Temperature (°C or °F) production setting
Display functions:	Min, Max, battery load
Output	RS 232 PC connection, Interface (SDI) for PC Software
Input:	battery load only with mains unit possible
Accuracy:	+/- 0,5 °C td (-10...50°C td) Typical +/- 2°C td at -40°C td
Power supply:	internal charchable storage battery (4 x 1,5 NiMh AAA) for Approximately 15 h operation Display Low Batt max. 2 hours remaining operation time
Online measurement:	with mains unit
Operating temperature:	-20...70°C measuring gas temperature 0...40 °C ambient temperature
EMC:	DIN EN 61326
Screw in thread:	G 1/2" stainless steel
Housing:	Polycarbonat
Weight:	230 g



Humidity Reference Cells

for **adjustment** and **calibration** of **humidity measuring instruments**

Performance characteristics

- **Reference cell for relative air humidity**
- **High accuracy guaranteed by chemically straight salts**
- **Integrated Teflon membrane as separating barrier between salt solution and measuring chamber**
- **Optimized housing with favourable ratio of membrane surface to inner volume**
- **Transparent design for visual controllability of saturation and liquid level**
- **Temperature range from 0 to +50°C**
- **Made in Germany, 12 months warranty**

Working principle

The humidity reference cells are used as humidity standards in order to provide stable humidity values for experiments or for calibration of measuring instruments. The achievable accuracy is within a deviation of 1 % RH.

The working principle is based on a saturated salt solution, that leads to a particular relative air humidity value prevailing directly above the solution.

The reference cells in addition contain a semi-permeable Teflon membrane (diaphragm) which separates the salt solution from the measuring area. The membrane is permeable for vaporous water molecules, but not for the salt solution or for liquid water. The humidity value in the measuring area corresponds to the relative air humidity above the salt solution. The membrane makes handling the cells much easier: the reference cells can be inserted upside down. There is no risk of the salt solution leaking out and thus spoiling the test item. Furthermore, the salt solution is protected against contamination coming from the outside. The active membrane area is rather large compared to the inside volume, which leads - after insertion of the test item - to quickly stabilizing humidity values.

The cells are mechanically stable and transparent. Thus, the humidity level and the air saturation can be monitored from the outside. The sensitive membrane is protected by a plastic insert. The humidity curve in dependence on the temperature can be seen on the label of the containers. Temperature ranges goes from 0 to +50°C.



Durability

When applied correctly, the cells can be used for many years. If the liquid level changes, just send in the cells to our customer service for regeneration or for a refill.

Versions

The version offered is equipped with a 1/2" inner thread that allows the compressed air probe or the instrument to be directly screwed in leak-proof. The reference cell is available. Further information can be made available upon request.

Fields of application

Due to the high accuracy, the reference cells are suitable for calibration of capacitive humidity measuring instruments.

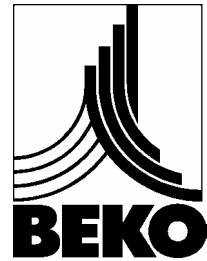
Further fields of application are humidity generators and moisturizing equipment for research and development purposes.

Humidity curve

Filling, salt	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Lithium chloride	11.26	11.29	11.30	11.31	11.30	11.28	11.25	11.21	11.16	11.10

Dew point overview

Lithium chloride (LiCl)										
temperature	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C	40 °C	45 °C	50 °C
relative humidity	11.26 %	11.29 %	11.30 %	11.31 %	11.30 %	11.28 %	11.25 %	11.21 %	11.16 %	11.10 %
dew point	-22.6 °tpd	-18.7 °tpd	-14.8 °tpd	-10.9 °tpd	-7.1 °tpd	-3.3 °tpd	0.5 °tpd	4.2 °tpd	7.9 °tpd	11.6 °tpd



CHINA, PEOPLE'S REPUBLIC OF

BEKO TECHNOLOGIES (DALIAN) Co. Ltd.
Rm.2431 Changjiang Office Tower
123, Changjiang Road
Dalian, China 116001

Mr. Dong Pengju
Tel. +86 / 411 / 825 269 88
Fax +86 / 411 / 825 291 52
beko@beko.cn

FRANCE

BEKO TECHNOLOGIES S.a.r.l.
Zone Industrielle
1 Rue de Frères Remy
F- 57200 Sarreguemines

Mr. Patrick Mizia
Tel. +33 / 387 / 28 38 00
Fax +33 / 387 / 28 38 09
beko@wanadoo.fr

INDIA

BEKO COMPRESSED AIR TECHNOLOGIES Pvt.
Ltd.
No 22, Hanuman Nagar, Chinnathokatta
Bowenpally, Secunderabad 500011
INDIA

Mr. Eric Purushotham
Tel +91 40 277 164 00
Fax +91 40 279 518 12
bekoindia@vsnl.net

ITALY

BEKO TECHNOLOGIES S.r.l
Via America 14
I - 10071 Borgaro Torinese (TO)

Mr. Mauro Squaiella
Tel. +39 / 0114 / 500 576
Fax +39 / 0114 / 500 578
info_beko@bekoitalia.191.it

JAPAN

BEKO TECHNOLOGIES K.K
KEIHIN THINK 2 Floor
1-1 Minamiwatarida-machi
Kawasaki-ku, Kawasaki-shi
213-0012

Mr. Frank R. Müller
Tel. +81 / (0) 44 / 328 / 76 01
Fax + 81 / (0) 44 / 328 / 76 02
info@beko-technologies.co.jp



NETHERLANDS

BEKO TECHNOLOGIES B.V.
Vaartveld 25
NL - 4704 SE Roosendaal

Mr. Gino Hoskens
Tel. +31 / 165 / 320 300
Fax +31 / 165 / 320 330
info@beko.nl

SPAIN

BEKO Tecnológica España S.L.
Polígono Industrial "Armenteres"
C./Primer de Maig, no.6

E-08980 Sant Feliu de Llobregat
Barcelona / España

Mr. Mathias Nowak
Tel. +34 / 93 632 76 68
Fax +34 / 93 632 77 29
beko@beko-tecnologica.es

THAILAND

BEKO TECHNOLOGIES S.E.Asia (Thailand) Ltd.
64/26 Moo 4 Eastern Seaboard Industrial Estate
Tambol Pluakdaeng,
Amphor Pluakdaeng
21140 Rayong
Thailand

Mr. Norbert Rozemeijer
Tel. +66 / (0) 38 / 919 113
Fax +66 / (0) 38 / 919 114
E-Mail: info@beko-seasia.com

UNITED KINGDOM

BEKO TECHNOLOGIES LTD.
2 West Court
Buntsford Park Road
Bromsgrove
Worcestershire B60 3DX

Mr. Richard Spires
Tel. +44 / 1527 / 57 57 78
Fax +44 / 1527 / 57 57 79
beko@beko-uk.com

USA

BEKO TECHNOLOGIES CORP.
236 Raceway Drive, Unit 1
Mooresville, NC 28117
USA

Tel. +01 / 704 663 662 1
Fax +01 / 704 663 746 7
beko@bekousa.com

BEKO TECHNOLOGIES GMBH

Im Taubental 7
D-41468 Neuss

Tel. +49 / (0) 21 31 / 988-0
Fax. +49 / (0) 21 31 / 988-900

Vertrieb-Deutschland-Schweiz@beko.de
Vertrieb-Oesterreich@beko.de