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HEIDENHAIN



Product Information

DA 300 Compressed Air Unit

September 2006

DA 300 Compressed Air Unit

The HEIDENHAIN sealed **linear and angle encoders** can be provided with a slight overpressure, making it possible to increase the degree of protection against contamination. The compressed air introduced directly onto the encoders must be cleaned by a microfilter and must comply with the following quality classes as per ISO 8573-1 (Edition 1995):

- Solid contaminants: Class 1 (max. particle size 0.1 μm and max. particle density 0.1 mg/m^3 at $1 \cdot 10^5$ Pa)
- Total oil content: Class 1 (max. oil concentration 0.01 mg/m^3 at $1 \cdot 10^5$ Pa)
- Max. pressure dew point: Class 4 but with reference conditions of +3 °C at $2 \cdot 10^5$ Pa

HEIDENHAIN offers the **DA 300 Compressed Air Unit** for purifying and conditioning compressed air. It consists of two filter stages (fine filter and activated carbon filter), automatic condensation trap, and a pressure regulator with pressure gauge. The compressed air introduced into the DA 300 must fulfill the requirements of the following quality classes as per ISO 8573-1 (Edition 1995):

- Max. particle size and density of solid contaminants: Class 4 (max. particle size 15 μm , max. particle density 8 mg/m^3)
- Total oil content: Class 4 (oil content: 5 mg/m^3)
- Max. pressure dew point: Not defined, Class 7

It can serve for up to 10 encoders.

At an operating pressure of $7 \cdot 10^5$ Pa, the compressed air conducted to the encoder by far exceeds the required purity.

Its pressure gauge and automatic pressure switch (available as accessories) effectively monitor the DA 300. The required air flow is 7 to 10 l/min per linear encoder; permissible pressure is in the range of 0.6 to 10^5 Pa. The compressed air must flow through connecting pieces with integrated throttle.

Specifications		DA 300
Mechanical design		System for cleaning and conditioning compressed air
Supported encoders		Max. 10 linear encoders (total 35 m measuring length) angle encoders or rotary encoders
Mechanical Design		<ul style="list-style-type: none"> • Fine filter of microfiber for dust, oil and water with particle sizes as fine as 0.1 μm • Activated carbon filter absorbs oil vapor up to 0.003 mg/m^3 • Pressure regulator for adjusting the output pressure
Items supplied		DA 300 compressed air unit 25 m pressure tubing 3 T-joints 4 connecting pieces for linear encoders
Overpressure	Typical Max. Min.	$7 \cdot 10^5$ Pa $16 \cdot 10^5$ Pa $3 \cdot 10^5$ Pa If air pressure falls below $6 \cdot 10^5$ Pa and the air is saturated with water vapor, an additional air drier must precede the DA 300.
Output pressure		$1 \cdot 10^5$ Pa (adjustable up to $3 \cdot 10^5$ Pa)
Operating temperature		1.5 °C to 30 °C
Flow rate		Max. 367 l/min ($\cong 22 \text{ Nm}^3/\text{h}$)
Connections	Compressed air inlet Condensate trap Compressed air outlet	R 1/4" R 1/8" Quick disconnect for pressure tubing 6 x 1
Maintenance		Filter exchange <i>Up to 3 encoders connected: every two years</i> <i>Up to 10 encoders connected: annually</i>

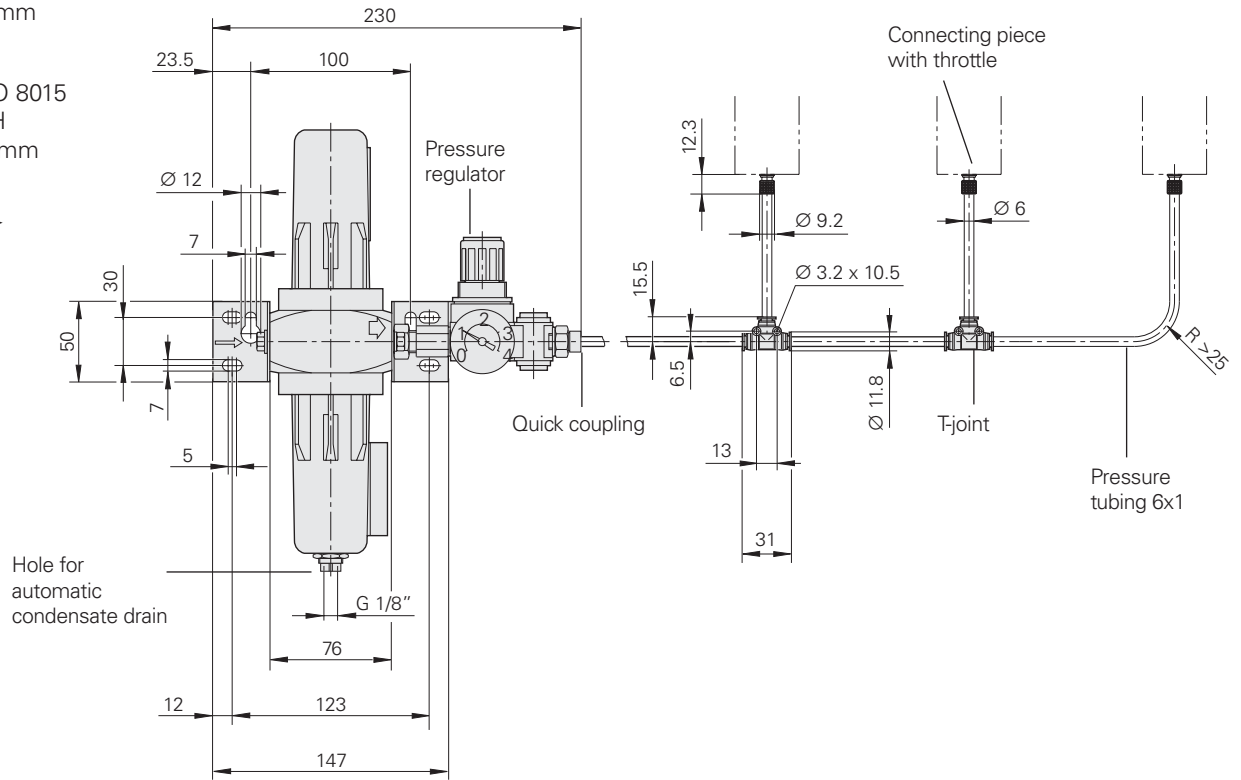
10^5 Pa \cong 1 bar

Dimensions in mm

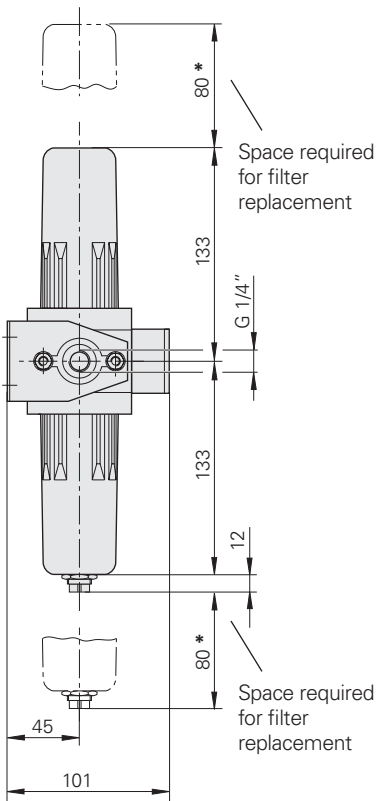


Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ±0.2 mm

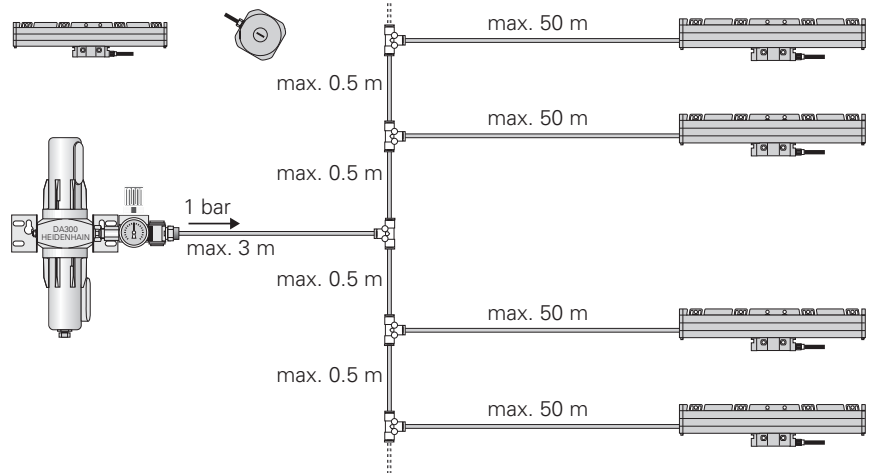
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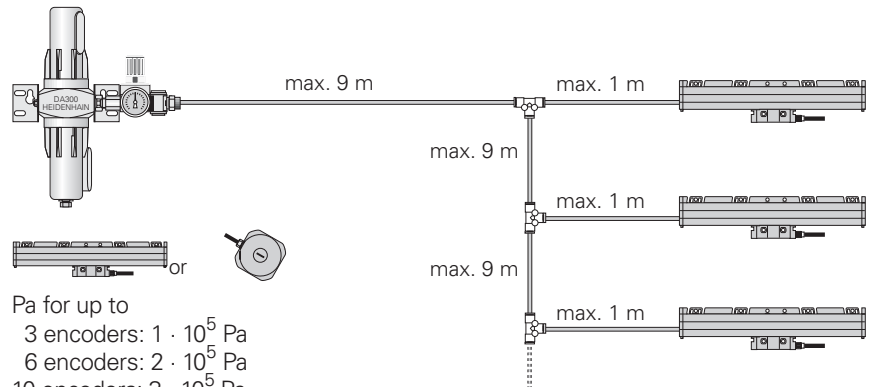
View A



Max. tubing lengths for parallel encoder connection


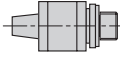
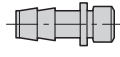

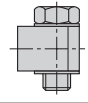

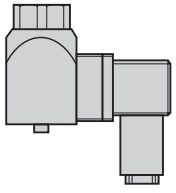


Max. tubing lengths for serial encoder connection



Pa for up to
3 encoders: $1 \cdot 10^5$ Pa
6 encoders: $2 \cdot 10^5$ Pa
10 encoders: $3 \cdot 10^5$ Pa

Accessories

Pressure tubing 6 x 1 , length 25 m One piece included	ID 207881-09	
T-joint 4 pieces included	ID 310094-02	
Connecting piece for linear encoders with throttle and seal 3 pieces included	ID 226270-02	
Connecting piece, short for linear encoders with throttle and seal	ID 275239-xx	
Connecting piece for angle encoders with throttle and seal	ID 207835-04	
M5 coupling joint , swiveling, with seal	ID 207834-02	
Spacer	ID 230905-01	
Pressure switch	ID 345857-01	
Fine filter element (prefilter)	ID 337 147-01	
Activated carbon filter element (microfilter)	ID 337 148-01	

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For more information

- Brochure: *Linear Encoders for Numerically Controlled Machine Tools*
- Brochure: *Angle Encoders with Integral Bearing*

