



# AD 10 - 3000 - Non-cycling refrigeration dryers

## General specifications

- ▶ Non-cycling refrigeration dryers
- ▶ Operating Pressure:
  - AD10 - 50: 4-16 barg / 60-232 psig
  - AD75 - 3000: 4-13 barg/60-188 psig
- ▶ Max. inlet temperature: 55°C / 113°F
- ▶ Flow rate: 21 - 5040 m<sup>3</sup>/hr / 12-2966 cfm<sup>(1)</sup>
- ▶ Pressure dew point: 3°C / 37°F (ISO 8573 - 1:2010 class 4)
- ▶ Power supply:
  - AD10 - 250: 230VAC 50/60 Hz
  - AD300 - 3000: 400V/50Hz; 380V/60Hz; 460V/60Hz
- ▶ Refrigerant: R134a (AD10 - 50); R410A (AD125 - 1250) & R452A (AD75 - 100 & AD1600 - 3000)

## Refrigeration Dryers: AD Series (10-3000) Non cycling

AD 10-50	AD 75-100
	
Features & Benefits	Features & Benefits
<ul style="list-style-type: none"> <li>• Stable performance and guaranteed dew point of 3°C/37°F</li> <li>• Ingeniously designed components to ensure maximum performance                             <ul style="list-style-type: none"> <li>• Hot gas bypass valve to prevent freezing at lower loads</li> <li>• Zero-loss electronic drain to prevent loss of valuable compressed air</li> <li>• Brazed plate heat exchanger with integrated water separator and air-to-air heat exchange</li> </ul> </li> <li>• R134a refrigerant gas: low global warming impact, zero ozone depletion</li> <li>• Digital display with real-time PDP monitoring</li> <li>• Easy plug-and-play installation</li> </ul>	<ul style="list-style-type: none"> <li>• Stable performance and guaranteed dew point of 3°C/37°F</li> <li>• Ingeniously designed components to ensure maximum performance                             <ul style="list-style-type: none"> <li>• Hot gas bypass valve to prevent freezing at lower loads</li> <li>• Zero-loss electronic drain to prevent loss of valuable compressed air</li> <li>• Aluminium block heat exchanger with integrated water separator and air-to-air heat exchange</li> </ul> </li> <li>• Environmental safe refrigerant gases R452A</li> <li>• Digital display with real-time PDP monitoring</li> <li>• Easy plug-and-play installation</li> </ul>

<sup>1</sup> Flow is measured at reference conditions: ambient pressure of 1 bara and 25°C at operating pressure of 7 barg, inlet temperature 35°C .

Pneumatech's AD 10-3000 non-cycling refrigeration dryers are designed to protect your compressed air system by lowering the presence of moisture in the compressed air. With a stable dew point as low as 3°C/37°F these dryers provide a highly efficient and reliable solution for your drying needs. Thanks to the new controller with digital display, real time PDP monitoring is possible. The zero-loss electronic drains avoid compressed air losses. The well-designed heat exchangers ensure maximum cooling efficiency, making the AD dryers a genuine air drying solution in industrial applications.

The AD125-1250 range is equipped with the winning combination: rotary compressors and R410A refrigerant. This combination is up to 30% more energy efficient, requires 19% less refrigerant gas and is 100% compliant with European regulation EU No 517 / 2014, hereby significantly reducing the ecological footprint of these dryers. Rotary compressors are moreover very reliable thanks to the low vibration levels and limited mechanical load. R410A guarantees stable evaporation, which makes the pressure dew point of 3°C /37°F possible.

AD 125-250	AD 300-1250	AD1600 - 3000
		
<p align="center"><b>Features &amp; Benefits</b></p>	<p align="center"><b>Features &amp; Benefits</b></p>	<p align="center"><b>Features &amp; Benefits</b></p>
<ul style="list-style-type: none"> <li>• Stable performance and guaranteed dew point of 3°C/37°F</li> <li>• Rotary compressors and R410A refrigerant: the winning combination               <ul style="list-style-type: none"> <li>• 30% more energy efficient</li> <li>• Requires 19% less refrigerant gas</li> </ul> </li> <li>• Extremely reliable: low vibration levels and limited mechanical load</li> <li>• Ingeniously designed components to ensure maximum performance               <ul style="list-style-type: none"> <li>• Hot gas bypass valve to prevent freezing at lower loads</li> <li>• Zero-loss electronic drain to prevent loss of valuable compressed air</li> <li>• Aluminium block heat exchanger with integrated water separator and air-to-air heat exchange</li> </ul> </li> <li>• Digital display with real-time PDP monitoring and voltage-free contact for remote alarm</li> <li>• Easy plug-and-play installation</li> </ul>	<ul style="list-style-type: none"> <li>• Stable performance and guaranteed dew point of 3°C/37°F</li> <li>• Rotary compressors and R410A refrigerant: the winning combination               <ul style="list-style-type: none"> <li>• 30% more energy efficient</li> <li>• Requires 19% less refrigerant gas</li> </ul> </li> <li>• Extremely reliable: low vibration levels and limited mechanical load</li> <li>• Ingeniously designed components to ensure maximum performance               <ul style="list-style-type: none"> <li>• Hot gas bypass valve to prevent freezing at lower loads</li> <li>• Zero-loss electronic drain to prevent loss of valuable compressed air</li> <li>• Aluminium block heat exchanger with integrated water separator and air-to-air heat exchange</li> </ul> </li> <li>• Advanced controlling and monitoring thanks to the controller installed               <ul style="list-style-type: none"> <li>• Digital PDP display</li> <li>• Remote start/stop</li> <li>• Voltage-free contact for general alarm</li> </ul> </li> <li>• Easy plug-and-play installation</li> </ul>	<ul style="list-style-type: none"> <li>• Stable performance and guaranteed dew point of 3°C/37°F.</li> <li>• Ingeniously designed components to ensure maximum performance               <ul style="list-style-type: none"> <li>• Hot gas bypass valve to prevent freezing at lower loads</li> <li>• Zero-loss electronic drain to prevent loss of valuable compressed air</li> <li>• Aluminium block heat exchanger with integrated water separator and air-to-air heat exchange</li> </ul> </li> <li>• Environmental safe refrigerant gases R452A</li> <li>• Advanced controlling and monitoring               <ul style="list-style-type: none"> <li>• Digital PDP display</li> <li>• Remote start/stop</li> <li>• Voltage-free contact for general alarm</li> </ul> </li> <li>• Easy plug-and-play installation</li> </ul>

### Options



**Filter Support**



**Bypass Valve**

# AD 10 - 3000 - Non-cycling refrigeration dryers

Technical specifications for AD 10-3000 50Hz																								
Pneumatech Variants → Specifications ↓		AD 10	AD 15	AD 25	AD 35	AD 50	AD 75	AD 100	AD 125	AD 150	AD 175	AD 200	AD 250	AD 300	AD 360	AD 500	AD 600	AD 750	AD 1000	AD 1250	AD 1600	AD 1800	AD 2500	AD 3000
Flow <sup>(1)</sup>	l/s	6	10	14	20	31	39	50	60	68	87	108	128	167	200	250	300	400	500	583	750	833	1167	1400
	m <sup>3</sup> /hr	21	36	51	72	110	141	180	216	246	312	390	462	600	720	900	1080	1440	1800	2100	2700	3000	4200	5040
Nominal electric power	kW	0.13	0.16	0.19	0.27	0.28	0.61	0.67	0.65	0.66	0.83	1.01	1.09	1.32	1.63	1.89	2.11	3.26	3.89	4.75	6.71	6.80	10.20	12.30
Power Supply / Voltage / Phase		230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3
Max Operating Pressure	barg	16	16	16	16	16	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	psig	232	232	232	232	232	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188
Refrigerant Gas		R134a	R134a	R134a	R134a	R134a	R452A	R452A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R452A	R452A	R452A	R452A	R452A
Inlet and Outlet Connections	inches / DIN	R3/4"	R3/4"	R3/4"	R3/4"	R3/4"	R1"	R1"	R1 1/2"	R1 1/2"	R1 1/2"	R1 1/2"	R1 1/2"	R2"	R2"	R2"	R2"	R3"	R3"	R3"	DIN 125	DIN 125	DIN 125	DIN 125
Dimensions	L (mm)	350	350	350	350	350	370	370	460	460	460	580	580	735	735	735	735	1020	1020	1020	1020	1020	1020	1020
	L (inch)	13.8	13.8	13.8	13.8	13.8	16.6	16.6	18.1	18.1	18.1	22.8	22.8	28.9	28.9	28.9	28.9	40.2	40.2	40.2	40.2	40.2	40.2	40.2
	W (mm)	511	511	511	511	511	515	515	575	575	575	604	604	952	952	952	952	1082	1082	1082	1123	2099	2099	2099
	W (inch)	20.1	20.1	20.1	20.1	20.1	20.3	20.3	22.6	22.6	22.6	23.8	23.8	37.5	37.5	37.5	37.5	42.6	42.6	42.6	44.2	42.6	42.6	42.6
	H (mm)	484	484	484	484	484	764	764	789	789	789	899	899	1012	1012	1012	1012	1535	1535	1535	1551	1560	1560	1560
	H (inch)	19.1	19.1	19.1	19.1	19.1	30	30	31.1	31.1	31.1	35.4	35.4	39.8	39.8	39.8	39.8	60.4	60.4	60.4	61.1	61.4	61.4	61.4
Weight	kg	19	19	20	25	27	44	44	53	60	65	80	80	128	146	158	165	325	335	350	380	550	600	650
	Lbs	42	42	44	55	60	97	97	117	132	143	176	176	282	322	348	364	716	738	771	838	1212	1322	1433

- Flow is measured at reference conditions: ambient pressure of 1 bara and 25°C at operating pressure of 7 barg, inlet temperature 35°C .
- 380V/60Hz and 460V/60Hz variants are also available for the AD300-3000 range. Please refer to the datasheets or consult Pneumatech for technical data.

Correction factors for ambient temperature							
Ambient temperature	°C	25	30	35	40	45	
	Ktmb	1.00	0.92	0.84	0.80	0.74	(AD 10-250)
		1.00	0.91	0.81	0.72	0.62	(AD 300-3000)

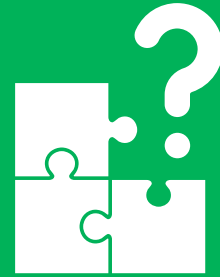
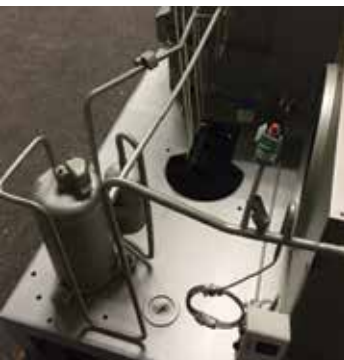
Correction factors for compressed air inlet temperature								
Inlet temperature	°C	30	35	40	45	50	55	
	Kt	1.24	1.00	0.82	0.69	0.58	0.45	(AD 10-250)
		1.00	1.00	0.82	0.69	0.58	0.49	(AD 300-3000)

Correction factors for compressed air inlet pressure																
Operating pressure	barg	4	5	6	7	8	9	10	11	12	13	14	15	16		
	Kp	0.80	0.90	0.96	1.00	1.03	1.06	1.08	1.10	1.12	1.13	1.15	1.16	1.15	(AD 10-250)	
		0.80	0.90	0.97	1.00	1.03	1.05	1.07	1.09	1.11	1.12	-	-	-	(AD 300-3000)	

# Anti-corrosion treatment (available for all refrigerant dryers)

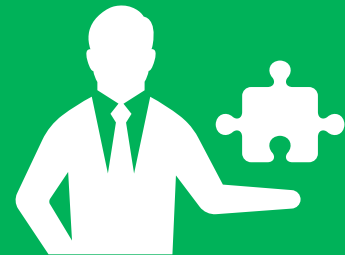
Technical specifications	
Coating type	Aluminum pigmented polyurethane
Color	Champagne
Pretreatment	Degreasing
Temperature Range (dry)	-20 to 150°C (-4° to 302°F)
Substrates	Aluminum and Copper
ASTM B117	4000+ hours(neutral-salt spray test)
Kesternich (2.0 ltr SO <sub>2</sub> )	80 cycles
Layer Thickness	25-30 µm (1 mil)
UV Resistance	Excellent
Adhesion (cross hatch)	0 (European) 5b (USA)
Chemical Resistance	Excellent

Coating resistance of some typical corrosive gas vapors (based on exposure temperature of 20°C/68°F) – maximum concentrations			
Chlorine	64 ppm	Ethanol	320 ppm
Ammonia	160 ppm	Sulphuric acid	320 ppm
Phosphoric acid	320 ppm	Seawater	640 ppm



## Problem

Refrigerant dryers can be subjected to severe corrosion when placed in environments rich of e.g ammonia and sulfurs, or close to the seaside. In these cases incompatible metals like copper will be affected since the condenser-fan is blowing a high volume of polluted air through the dryer. Corrosion and pollution of condensers will directly impact the dryer performance. Corrosion can even lead to leaks in the condenser and refrigeration piping.



## Solution

Pneumatech offers a long-lasting corrosion protection to the condenser and the refrigerant piping without affecting heat transfer and pressure drop. The heat conductive pigmentation in the coating is oriented in such a way that it creates a very high chemical resistance at a low layer thickness. Therefore it is considered the best available option to prevent refrigeration dryer failure and unnecessary energy consumption.