

COMPRAG®

positive displacement



#1

COMPRESSED AIR PREPARATION
ADSORPTION DRYER
ADX-series

ADSORPTION DRYER ADX fixed cycle time controlled



Consistently low dew point also with variable compressed air flow from 0% to 100%.

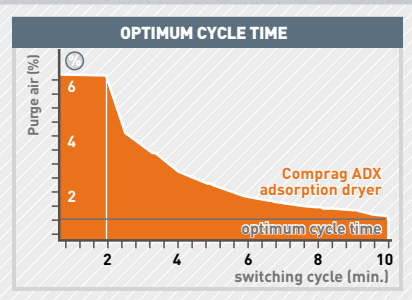
Comprag ADX adsorption dryers are a highly efficient solution for dehumidifying compressed air. They can keep the pressure dew point at $-40\text{ }^{\circ}\text{C}$ at constant pressure. The adsorption dryer comprises two towers, which contain the optimum amount of dehumidifying drying agent. Compressed air is fed into the two towers in an alternating manner and brought into contact with the drying agent at a moderate speed, whereby the air is dehumidified. If the drying agent of the first tower is too moist, the flow of compressed air switches over to the second tower, which then takes on the function of moisture uptake. ADX adsorption dryers feature high-quality control valves with long service life. Switching between the drying cycle and regeneration cycle is controlled electronically with a switching cycle of 10 minutes.

Performance data according to DIN ISO 7183:

- Working pressure: 7 bar
- Compressed air temperature: $35\text{ }^{\circ}\text{C}$
- Ambient temperature: $25\text{ }^{\circ}\text{C}$
- Pressure dew point: $-40\text{ }^{\circ}\text{C}$



Optimum cycle time of 10 minutes



Comprag adsorption dryers operate at optimum performance with a cycle time of 10 minutes. Reducing the regeneration cycles lowers the operational load of the towers, the valves and the drying agent.

Furthermore, a long cycle reduces pressure loss if the working pressure in the tower is restored after a regeneration cycle.

Properties:

- Fully automatic operation
- Dew point at constant pressure from -40 °C for efficient dehumidification
- High-grade drying agent with high specific surface
- Optimum cycle of 10 min.
- Adjustable purge air flow
- ADX-F with installed pre- and after-filters

Operation of the ADX-series adsorption dryer

Phase 1 Tower (1) is in the drying cycle. Moist air flows out of the compressor via the bottom shuttle valve (A) into the tower (1).

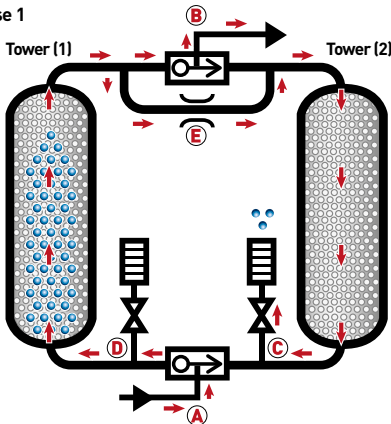
The pressure in the tower (1) rises to the compressor's working pressure. The drying agent in the tower (1) removes moisture from the inflowing compressed air. The dried compressed air is fed through the directional control valve (B) into the compressed-air system.

Tower (2) is in the regeneration cycle. A small amount of dried compressed air (E) [purge air] is fed through the tower (2). The blow out valve (C) is opened and the purge air together with the moisture accumulated in the tower (2) is discharged through the blow-out valve and the silencer.

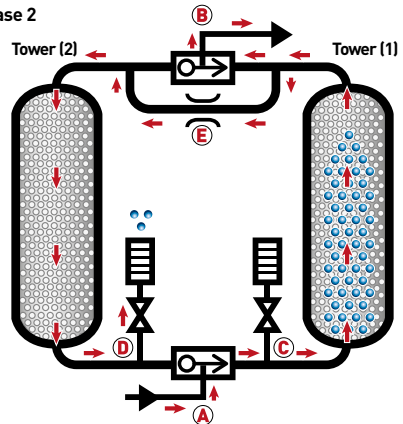
Phase 2 The towers alternate functions in a 10-minute cycle. The blow-out valve (C) of the tower (2) is closed, and the blow-out valve (D) of the tower (1) is opened.

The shuttle valve (A) switches simultaneously, and the moist air flows out of the compressor into the tower (2) that is switching into the drying cycle. Tower (1) switches into the regeneration cycle and discharges the accumulated moisture.

Phase 1



Phase 2

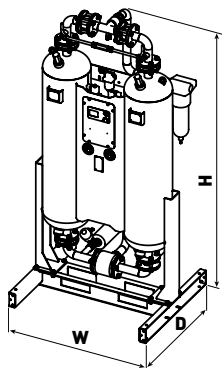


Technical data adsorption dryer ADX-F with installed pre-and after-filters

Article	Model	Air flow* (m ³ /min)	Pre-filters	After-filters	Max. working pressure (bar)	Screw connection	Rated voltage (Phase-V/Hz)
14400201	ADX-20-F	2,00	AF-047/EL-047S	AF-047/EL-047P	10	G 1"	1/230/50
14400202	ADX-30-F	3,00	AF-047/EL-047S	AF-047/EL-047P	10	G 1"	1/230/50
14400203	ADX-40-F	4,00	AF-072/EL-072S	AF-072/EL-072P	10	G 1.1/4"	1/230/50
14400204	ADX-50-F	5,00	AF-072/EL-072S	AF-072/EL-072P	10	G 1.1/4"	1/230/50
14400205	ADX-70-F	7,00	AF-085/EL-085S	AF-085/EL-085P	10	G 1.1/2"	1/230/50
14400206	ADX-90-F	9,00	AF-085/EL-085S	AF-085/EL-085P	10	G 1.1/2"	1/230/50
14400207	ADX-125-F	12,50	AF-148/EL-148S	AF-148/EL-148P	10	G 2"	1/230/50
14400208	ADX-160-F	16,00	AF-148/EL-148S	AF-148/EL-148P	10	G 2"	1/230/50
14400209	ADX-200-F	20,00	AF-240/EL-240S	AF-240/EL-240P	10	G 2.1/2"	1/230/50
14400210	ADX-250-F	25,00	AF-240/EL-240S	AF-240/EL-240P	10	G 2.1/2"	1/230/50

*Measured according to ISO 7183

Dimensions of ADX-F



Model	Height H (mm)	Width W (mm)	Depth D (mm)	Weight (kg)
ADX-20 / ADX-20-F	1220	800	600	90,0 / 95,0
ADX-30 / ADX-30-F	1500	800	600	111,0 / 116,0
ADX-40 / ADX-40-F	1850	800	800	175,0 / 185,0
ADX-50 / ADX-50-F	2130	800	800	200,0 / 215,0
ADX-70 / ADX-70-F	1950	1040	800	250,0 / 260,0
ADX-90 / ADX-90-F	2200	1040	800	300,0 / 320,0
ADX-125 / ADX-125-F	2320	1275	1000	500,0 / 520,0
ADX-160 / ADX-160-F	2320	1320	1000	565,0 / 590,0
ADX-200 / ADX-200-F	2320	1430	1000	720,0 / 750,0
ADX-250 / ADX-250-F	2630	1430	1000	800,0 / 840,0

ADSORPTION DRYER ADX-F-PDP with dew-point control - maximum drying efficiency, minimum costs

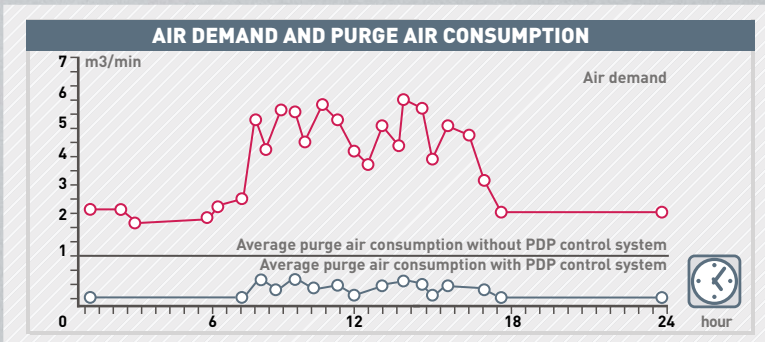


with dew-point control

The ADX-F-PDP series, equipped with the most advanced control systems and comprising a modern LCD display controller, a measuring chamber for constant flow and a precise dew-point sensor, provides the highest quality compressed-air drying at the lowest possible cost.



Air demand and purge air consumption



The air demand and the load situation for an adsorption dryer fluctuate constantly on a daily basis. The Comprag dew-point-dependent control system significantly reduces energy costs while ensuring a constant and reliable dew point. Using the specially developed controller in combination with the accurate and reliable dew-point sensor, the DPD control system keeps the regeneration time constant, while the adsorption time is adjusted strictly proportionally to the load situation. As a result, only the actually required quantity of purge air is used. An investment in the PDP control system has a very short return on investment — as early as within six months.

Features:

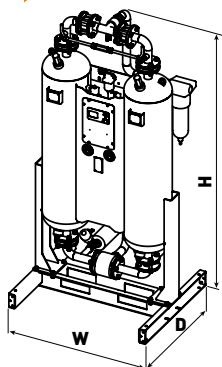
- LCD display controller
- Precise dew-point sensor
- Measuring chamber
- Installed pre- and after-filters

Technical data adsorption dryer ADX-F-PDP

Article	Model	Air flow* (m ³ /min)	Pre-filters	After-filters	Max. working pressure (bar)	Screw connection	Rated voltage (Phase/V/Hz)
14400301	ADX-20-F-PDP	2,00	AF-047/EL-047S	AF-047/EL-047P	10	G 1"	1/230/50
14400302	ADX-30-F-PDP	3,00	AF-047/EL-047S	AF-047/EL-047P	10	G 1"	1/230/50
14400303	ADX-40-F-PDP	4,00	AF-072/EL-072S	AF-072/EL-072P	10	G 1.1/4"	1/230/50
14400304	ADX-50-F-PDP	5,00	AF-072/EL-072S	AF-072/EL-072P	10	G 1.1/4"	1/230/50
14400305	ADX-70-F-PDP	7,00	AF-085/EL-085S	AF-085/EL-085P	10	G 1.1/2"	1/230/50
14400306	ADX-90-F-PDP	9,00	AF-085/EL-085S	AF-085/EL-085P	10	G 1.1/2"	1/230/50
14400307	ADX-125-F-PDP	12,50	AF-148/EL-148S	AF-148/EL-148P	10	G 2"	1/230/50
14400308	ADX-160-F-PDP	16,00	AF-148/EL-148S	AF-148/EL-148P	10	G 2"	1/230/50
14400309	ADX-200-F-PDP	20,00	AF-240/EL-240S	AF-240/EL-240P	10	G 2.1/2"	1/230/50
14400310	ADX-250-F-PDP	25,00	AF-240/EL-240S	AF-240/EL-240P	10	G 2.1/2"	1/230/50

*Measured according to ISO 7183

Dimensions of ADX-F-PDP



Model	Height H (mm)	Width W (mm)	Depth D (mm)	Weight (kg)
ADX-20-F-PDP	1220	800	600	95,0
ADX-30-F-PDP	1500	800	600	116,0
ADX-40-F-PDP	1850	800	800	185,0
ADX-50-F-PDP	2130	800	800	215,0
ADX-70-F-PDP	1950	1040	800	260,0
ADX-90-F-PDP	2200	1040	800	320,0
ADX-125-F-PDP	2320	1275	1000	520,0
ADX-160-F-PDP	2320	1320	1000	590,0
ADX-200-F-PDP	2320	1430	1000	750,0
ADX-250-F-PDP	2630	1430	1000	840,0



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