



*inspired by
technology*

*High Pressure Dryer
ecodry HDK-MT_{multitronic}
with High Pressure Microfilters*



Adsorption dryer ecodry HDK-MT multitronic

The compact system...



For reliable treatment of compressed air in the high-pressure range from 1450 - 5075 psi g we provide the ecodry HDK-MT. It is the result of 30 years of experience in manufacturing adsorption dryers updated with state of the art technology:

- high-quality piston valves, from series production, combined in one block, individually exchangeable, with separate functions for:
 - adsorption
 - regeneration
 - pressure build-up
- valve and tower configuration is combined for a compact system design
- easy access to the towers on the inlet and outlet side
- self-cleaning drainage system

in the lower inlet region of the adsorber

- the high-quality desiccant is fixed in the adsorber by means of an efficient pretensioning system

These features provide an extremely reliable and efficient dryer package.

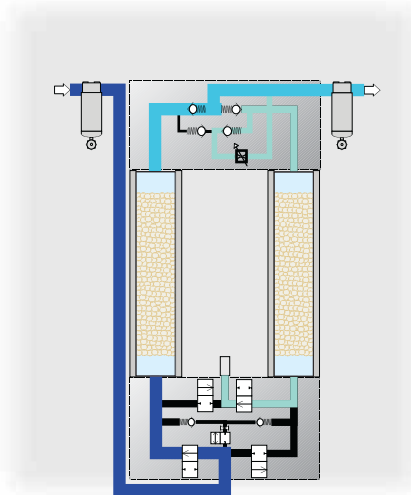
The adsorption dryer series HDK-MT is equipped with the proven microprocessor controller multitronic.

The combination of dryer series HDK-MT plus a series XP pre-filter and a series ZP after-filter with advanced technology fulfills the highest requirements for the conditioning of compressed air.

...reliable operation

The compressed air is loaded with dust particles, condensate and oil droplets. The high-pressure adsorption dryer HDK-MT with pre-filters and after-filters reliably reduces these impurities to a minimum. The high-pressure pre-filter series XP, which is suitable for all pressure ratings, reduces the quantity of oil droplets in the compressed air to a residual value of 0.01 ppm. Subsequently, the moisture is reliably removed from the compressed air by the adsorption dryer to a pressure of -40°F (option: variable to -94°F). The high-pressure afterfilter series ZP connected to the outlet of the dryer traps any remaining solid particles up to 1 micron with a filtration efficiency of 99.9999%. This high-quality compressed air is then fed into the network for use.

Duration of the adsorption phase: 15 minutes.
Continuous operation of the adsorption dryer requires two vessels, each filled with a high-quality desiccant. The compressed air is dried in the first vessel. At the same time and parallel to this, the desiccant is regenerated in the second vessel. Part of the flow of already dried compressed air (depending on the working pressure approx. 3 - 5%) is branched off at the outlet of the adsorption dryer and is expanded to atmospheric pressure before it is fed in counterflow through the bed of desiccant to be regenerated removing the moisture. Duration of the regeneration phase: 12 minutes.
The switch-over from regeneration to adsorption is carried out after the pressure has been built

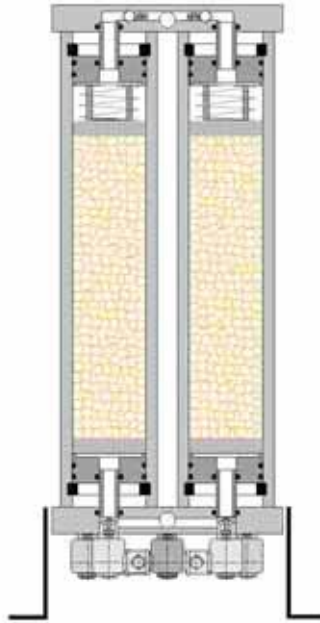


up. The change from regeneration to adsorption without an accompanying pressure surge is only possible if both vessels have the same working pressure. Duration of the pressure build-up: 3 minutes

...with brilliant details

The high-pressure adsorption dryers of the series HDK-MT are characterized by innovative construction features:

- **solid valve block**
mounting plate: aluminum. Generously dimensioned channels within the plate connect the main and exhaust valves as well as the pressure build-up valve to form one unit. All valves are easily and individually accessible from outside.
- **corrosion-free adsorber**
made of stainless steel. The adsorber is effectively protected against moisture. This greatly increases the service life of the adsorber.
- **detachable adapter piston**
suitable to connect variable and self-cleaning separator systems and allows simple handling.
- **effective drainage system**
The separation zone facilitates



separation of the moisture during adsorption and regeneration

- **high-quality desiccant**
A spring preload in the adsorber

fixes the desiccant in position and fulfills all requirements for adsorption drying, such as low abrasion and high operating reliability.

- **Multifunctional distribution plate**
mounting plate: aluminum. Generously dimensioned non-return valves separate the wet and dry sides.
- **optimized routing of compressed air**
Only four connections between the inlet and the outlet, i.e. the dryers are technically leak-free.
- **Torsionally-rigid design**
The solid valve block and the multifunctional distribution plate are connected to form a stable, compact unit.
- **system-compliant modules**
Pre-filters and after-filters, dew point meter etc. supplement the system.

...and perfect control

The multitronic controller is perfectly matched to the high-pressure dryers of the HDK-MT series. It allows the highly efficient adjustment of the adsorption dryer even to extremely difficult operating conditions. From a continuously displayed status to synchronization with the compressor. (Option: pressure controller.) The multitronic system, accommodated in a clearly designed readily accessible housing, offers:

- a comfortable microprocessor controller for all **ZANDER** high-

pressure dryer systems.

- flexible adjustment of the cycle times of up to 240 hours.
- LEDs on the front panel for individual functions such as
 - operation
 - adsorption
 - desorption
- Selector switch I-0-2 for fixed cycles or variable cycle with compressor synchronization

Possible options:

- direct pressure dew point measurement including digital display
- potential-free output to the



limiting value of the pressure dewpoint, option: output 4 - 20mA

- the possibility to set the desired dew point in the range from -13°F to -40°F.

Basic unit

Adsorption dryer HDK-MT



- Compact design, including:
- separately activated main valve
 - separately activated exhaust valve
 - stainless steel vessel
 - initial filling of adsorbent (molecular sieve)
 - non-return valve block with pressure reduction
 - multitronic controller 115V 60Hz

Optional addition

Cleaner HDA



- Compact design to match the dryer:
- HDA providing a filling of adsorbent activated carbon
 - suitable for direct combination with the dryer HDK / HDK-MT
- for the highest quality requirements of the compressed air in the high-pressure range.
- Residual oil content up to 0.003 ppm

Accessories

Pre-filter Series XP



for complete separation of oil and condensate droplets down to 0.01 ppm as well as solids from the compressed air including a manual condensate drain valve

for the pre and after-filter



Differential pressure gauge
HZD80/350
Indicated range 0 - 23.2 psi g
alternatively
HZDE80/350
with an electrical signal for the limiting value with dry output connection

after-filter series ZP



to trap solids of up to 1 micron from the compressed air with an efficiency of 99.9999 %, including manual condensate drain valve



Electrical condensate drain trap 2/250
max. working pressure 3625 psi g
trap 2/400
max. working pressure 5075 psi g
after-filter: manual drain valve

Options for the dryer

Monitoring of the pressure dew point



Pressure sensor
type ZHM 100
measuring range -148°F to +68°F

Option:
signal output 4-20mA
with module MBS 420

Start-up device



Pressure control valve
type ZAFV 350
installation:
downstream of dryer/filter
prevents overloading during the start-up phase if the working pressure is low

Quality

ZANDER is a market leader for adsorption dryers. The new generation of adsorption dryers redefines the cost/benefit ratio: highest quality and safety with reasonable operating costs.

Adsorption dryer ecodry HDK-MT multitronic

- 1 Adsorber**
Material: stainless steel,
PED minimum load cycle
250,000 at nominal pressure
> **10 years of continuous
operation**
- 2 Valve block**
reduces leaks and is the basis
of the pipe-free design
> **high operating reliability**
- 3 Connections**
only 4 connections and no
internal piping: simple access to
all components
> **technically leak-free with
highest reliability**
- 4 Wet region**
corrosion-free collecting
chamber within the humid zone
protects the desiccant from high
moisture
> **longer service life**
- 5 Desiccant**
highly active molecular sieve
guarantees stable pressure dew
points from -13°F to -94°F
> **for greater process reliability**
- 6 Regeneration unit**
passive presetting of the purge
air
> **flexibility via multitronic
controller**
- 7 multitronic**
Microprocessor controller
in a clearly arranged, easily
accessible housing
> **adjustment of the pressure
dew point options**
- 8 Functional display**
with LEDs on the panel for:
- Power
- Adsorption
- Regeneration
- Economy cycle
> **continuous status display**
- 9 System-compliant modules**
the pre-filters and after-filters in
the XP and ZP series are
standard accessories. The high
pressure dryer can be
individually customized with
modular options such as:
activated carbon cleaner HDA,
pressure control valve
> **various application options**



Dryer HDK-MT

+



Cleaner HDA

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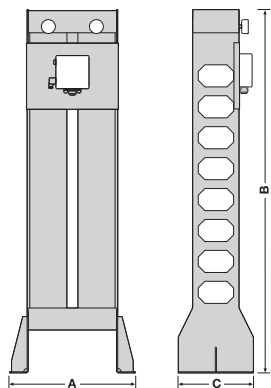


Combination
Dryer/Cleaner HDAK-MT

Technical data

Type	Capacity* (scfm)	Dimensions (ins)			Connection (NPT)	Max. pressure (psi g)	Weight (lbs)	Suitable pre-filter	Suitable after-filter
		A	B	C					
HDK-MT 4-100	20	29	40	14	1/2" NPT	1450	183	G 3/100 XP	G 3/100 ZP
HDK-MT 6-100	32	29	41	14	1/2" NPT	1450	187	G 3/100 XP	G 3/100 ZP
HDK-MT 10-100	45	29	41	14	1/2" NPT	1450	191	G 3/100 XP	G 3/100 ZP
HDK-MT 15-100	60	29	42	14	1/2" NPT	1450	198	G 5/100 XP	G 5/100 ZP
HDK-MT 20-100	90	29	50	14	1/2" NPT	1450	231	G 5/100 XP	G 5/100 ZP
HDK-MT 25-100	120	29	57	14	1/2" NPT	1450	264	G 7/100 XP	G 7/100 ZP
HDK-MT 30-100	151	29	65	14	1/2" NPT	1450	286	G 7/100 XP	G 7/100 ZP
HDK-MT 40-100	216	31	65	14	3/4" NPT	1450	341	G 9/100 XP	G 9/100 ZP
HDK-MT 50-100	262	31	73	14	3/4" NPT	1450	374	G 9/100 XP	G 9/100 ZP
HDK-MT 60-100	297	31	80	14	3/4" NPT	1450	418	G 11/100 XP	G 11/100 ZP
HDK-MT 70-100	328	31	85	14	3/4" NPT	1450	462	G 11/100 XP	G 11/100 ZP
HDK-MT 4-250	30	29	40	14	1/2" NPT	3625	253	G 3/250 XP	G 3/250 ZP
HDK-MT 6-250	42	29	41	14	1/2" NPT	3625	264	G 3/250 XP	G 3/250 ZP
HDK-MT 10-250	60	29	41	14	1/2" NPT	3625	275	G 3/250 XP	G 3/250 ZP
HDK-MT 15-250	75	29	42	14	1/2" NPT	3625	286	G 5/250 XP	G 5/250 ZP
HDK-MT 20-250	116	29	50	14	1/2" NPT	3625	352	G 7/250 XP	G 7/250 ZP
HDK-MT 25-250	151	29	57	14	1/2" NPT	3625	429	G 7/250 XP	G 7/250 ZP
HDK-MT 30-250	216	29	65	14	1/2" NPT	3625	484	G 7/250 XP	G 7/250 ZP
HDK-MT 40-250	267	31	65	14	3/4" NPT	3625	594	G 9/250 XP	G 9/250 ZP
HDK-MT 50-250	302	31	73	14	3/4" NPT	3625	649	G 9/250 XP	G 9/250 ZP
HDK-MT 60-250	363	31	80	14	3/4" NPT	3625	737	G 9/250 XP	G 9/250 ZP
HDK-MT 70-250	458	31	85	14	3/4" NPT	3625	792	G 11/250 XP	G 11/250 ZP
HDK-MT 4-350	34	29	40	14	1/2" NPT	5075	275	G 3/350 XP	G 3/350 ZP
HDK-MT 6-350	47	29	41	14	1/2" NPT	5075	286	G 3/350 XP	G 3/350 ZP
HDK-MT 10-350	73	29	41	14	1/2" NPT	5075	297	G 5/350 XP	G 5/350 ZP
HDK-MT 15-350	100	29	42	14	1/2" NPT	5075	308	G 5/350 XP	G 5/350 ZP
HDK-MT 20-350	151	29	50	14	1/2" NPT	5075	374	G 7/350 XP	G 7/350 ZP
HDK-MT 25-350	201	29	57	14	1/2" NPT	5075	451	G 7/350 XP	G 7/350 ZP
HDK-MT 30-350	252	29	65	14	3/4" NPT	5075	506	G 9/350 XP	G 9/350 ZP
HDK-MT 40-350	393	31	65	14	3/4" NPT	5075	616	G 9/350 XP	G 9/350 ZP
HDK-MT 50-350	474	31	73	14	3/4" NPT	5075	682	G 9/350 XP	G 9/350 ZP
HDK-MT 60-350	544	31	80	14	3/4" NPT	5075	770	G 9/350 XP	G 9/350 ZP
HDK-MT 70-350	595	31	85	14	3/4" NPT	5075	836	G 11/350 XP	G 11/350 ZP

* calculated to 14.5 psi g (abs) and 68°F each for max. operating pressure and inlet temperature 95°F



Conversion factors temperature and pressure

Pressure/temperature

		86°F	95°F	104°F	113°F	122°F
pmax = 1450 psi g	725 psi g	0.51	0.50	0.39	0.30	0.24
	1088 psi g	0.76	0.75	0.58	0.45	0.36
	1450 psi g	1.01	1.00	0.77	0.61	0.48
pmax = 3626 psi g	1450 psi g	0.40	0.40	0.31	0.24	0.19
	2538 psi g	0.71	0.70	0.54	0.42	0.33
	3626 psi g	1.01	1.00	0.77	0.61	0.48
pmax = 5076 psi g	3626 psi g	0.72	0.71	0.55	0.43	0.34
	4351 psi g	0.87	0.86	0.66	0.52	0.41
	5076 psi g	1.01	1.00	0.77	0.61	0.48

High Pressure Microfilters

Validated performance that exceeds the standards

Microfilter Series V

- 3.0 Micron @ 99.99% efficiency

The Series V prefilter range mainly takes out particles from the compressed air. Thanks to the use of materials specifically developed for this duty, the user enjoys a long service life with constant efficiency.

There are fine particles smaller than 3 micron such as dust and oil aerosols which must be filtered out by a fine coalescing filter. This is where the newly developed high efficiency depth Microfilter in various grades are used.

Microfilter Series ZP

- 1.0 Micron @ 99.99999% efficiency
- Oil retention to 0.5 ppm
- Performance is VALIDATED

Microfilter Series XP

- 0.01 Micron @ 99.99999% efficiency
- Oil retention to 0.01 ppm
- Performance is VALIDATED

If an even better quality of compressed air is needed including removal of oil vapors, an adsorption filter is required.

Microfilter Series A

- Activated carbon adsorption bed
- Integrated dust filter
- Vapor removal to 0.005 ppm

ZANDER filters use machine pleated elements, which form the heart of the filter. These pictures well illustrate the benefits of a pleated filter. They have 3 to 4.5 times the filter surface area and have a consistent and reproducible quality.



Pleating means the following benefits:

- lower velocity
- lower differential pressure
- better separation
- higher dirt holding capacity
- longer service life
- lower operating costs

The advantages quickly pay for themselves. No matter what the installed capacity of the system, the pleated filter elements save considerable electrical costs.

Important criteria for choice of an economical filter:

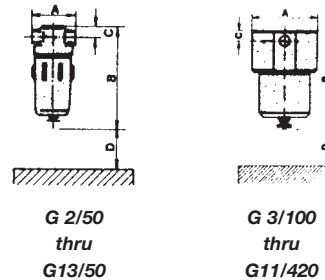
- Highest flow capabilities
- Lowest differential pressure
- Highest dirt holding capacity by integrating the prefilter medium with the final filtration layers
- Longest service life
- Highest product quality due to latest manufacturing techniques to ISO 9001

Technical data

Type	Capacity* (scfm)	Dimensions (ins)				Connection (NPT)	Max. pressure (psi g)	Weight (lbs)	Qty	Model
		A	B	C	D					
G2/25	45	2.4	7.9	0.6	2.4	1/4" NPT	362	1.8	1	1030
G3/25	75	3.4	9.6	0.8	3.0	1/4" NPT	362	2.7	1	1050
G5/25	100	3.4	9.6	0.8	3.5	3/8" NPT	362	2.7	1	1070
G7/25	150	3.4	12.4	0.8	6.3	1/2" NPT	362	3.1	1	1140
G9/25	265	5.1	13.8	1.7	5.3	3/4" NPT	362	9.0	1	2010
G11/25	440	5.1	17.7	1.7	9.3	1" NPT	362	10.8	1	2020
G13/25	1030	5.1	29.7	1.7	20.7	1 1/2" NPT	362	14.6	1	2050
G14/25	1530	6.5	28.9	1.9	20.5	2" NPT	362	19.6	1	3050
G2/50	45	2.4	7.9	0.6	2.4	1/4" NPT	725	1.8	1	1030
G3/50	75	3.4	9.6	0.8	3.0	1/4" NPT	725	2.7	1	1050
G5/50	100	3.4	9.6	0.8	3.5	3/8" NPT	725	2.7	1	1070
G7/50	150	3.4	12.4	0.8	6.3	1/2" NPT	725	3.1	1	1140
G9/50	265	5.1	13.8	1.7	5.3	3/4" NPT	725	9.0	1	2010
G11/50	440	5.1	17.7	1.7	9.3	1" NPT	725	10.8	1	2020
G13/50	1030	5.1	29.7	1.7	20.7	1 1/2" NPT	725	14.6	1	2050
G14/50	1530	6.5	28.9	1.9	20.5	2" NPT	725	19.6	1	3050
G3/100	75	3.4	13.0	1.0	3.9	1/4" NPT	1450	7.3	1	1050
G5/100	100	3.4	13.0	1.0	4.5	3/8" NPT	1450	7.5	1	1070
G7/100	170	3.4	15.6	1.0	7.3	1/2" NPT	1450	8.6	1	1140
G9/100	310	4.6	17.5	1.0	6.7	3/4" NPT	1450	24.3	1	2010
G11/100	500	4.6	20.9	1.0	10.6	1" NPT	1450	27.3	1	2020
G13/100	1030	4.9	35.4	1.3	22.1	1 1/2" NPT	1450	46.3	1	2050
G14/100	1530	6.1	36.4	1.8	22.3	2" NPT	1450	68.3	1	3050
G3/250	75	3.4	13.0	1.0	3.9	1/4" NPT	3625	7.3	1	1050
G5/250	110	3.4	13.0	1.0	4.5	3/8" NPT	3625	7.5	1	1070
G7/250	210	3.4	15.6	1.0	7.3	1/2" NPT	3625	8.6	1	1140
G9/250	500	4.6	17.5	1.0	6.7	3/4" NPT	3625	30.9	1	2010
G11/250	800	4.6	20.9	1.0	10.6	1" NPT	3625	38.4	1	2020
G13/250	1690	4.9	35.4	1.3	22.0	1 1/2" NPT	3625	66.1	1	2050
G14/250	2650	6.1	36.4	1.8	22.3	2" NPT	3625	103.6	1	3050
G3/350	78	3.4	13.0	1.0	3.9	1/4" NPT	5075	7.3	1	1050
G5/350	150	3.4	13.0	1.0	4.5	3/8" NPT	5075	7.5	1	1070
G7/350	205	3.4	15.6	1.0	7.3	1/2" NPT	5075	8.6	1	1140
G9/350	600	4.6	17.5	1.0	6.7	3/4" NPT	5075	41.	1	2010
G11/350	882	4.6	20.9	1.0	10.6	1" NPT	5075	47.6	1	2020
G13/350	1880	4.9	35.4	1.3	22.0	1 1/2" NPT	5075	88.2	1	2050
G14/350	2943	6.1	36.4	1.8	22.3	2" NPT	5075	136.7	1	3050

* calculated to 14.5 psi g (abs) and 68°F
each for max. operating pressure and inlet temperature 95°F

Higher pressures and flows available upon request.



We are constantly updating our product so we cannot be responsible for manufacturing and dimension changes.
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