



aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Find more information
on this product on our
homepage

NEW!
Now with
improved
ZDMC2

Adsorption Dryer

Concept WVM



Adsorption Dryer

Concept WVM



The new generation ...

... of vacuum heat regenerated adsorption dryers is the result of continuous research and development based on years of experience in user installations worldwide.

The name Parker Zander is synonymous with the best in compressed air treatment. The new CONCEPT WVM range adds to the reputation with optimum efficiency, reliability and constant high quality. This level of quality is reflected in the pressure dew point, which can be both measured and tested.

The designated pressure dew point of a CONCEPT WVM dryers remains continuously constant, so important in today's systems. The constant dew point is achieved by using two layers of desiccant and regeneration under vacuum.

The vacuum regeneration with Active Heating and Intensive Cooling defines the new standard for heat regenerated dryers.

Adsorption

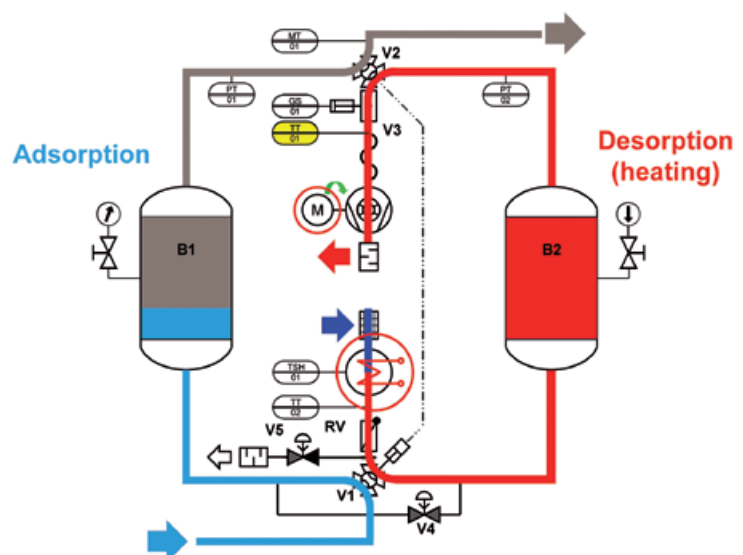
Desiccant attracts and stores the moisture from the saturated compressed air. Parker Zander's experience in designing and building heat regenerated dryers over many years has resulted in

the use of high capacity and long service life desiccant. The most economical form of desiccant bed is to combine the correct proportions of water resistant with high efficiency desiccant.

The filling of desiccant in the new dryers means low energy costs, a longer service life and a stable dew-point.

Regeneration

Using the vacuum technology with low regeneration temperatures and the economical ratio of desiccant results in optimum efficiency and a stable long term dew point.



Adsorption Dryer

Concept WVM

Active heating

The Parker Zander vacuum system reduces the regeneration pressure. Only heating under vacuum guarantees the greatest desiccant activation. Regenera-

tion under vacuum also means a lower steam vapour temperature. Active heating results in less energy requirement and the benefit of less cooling.



Intensive Cooling

Cooling air flows in the same direction as the dried compressed air. This prevents moisture loading at the outlet of the dryer. The advantages of this system are lower temperatures, shorter

cooling times, lower energy requirements, a lower preloading with water, a short cooling time and no purge air consumption for cooling.



System Control

The user friendly system control installed on the CONCEPT WVM dryers ensures a reliable operation of the unit. The units have a perfect set of system relevant signals. These signals define and control the active heating and active cooling phases in the regeneration cycle within very exact tolerances. The result of these fine tolerances is that the

dryer adapts exactly to the working pattern in the plant, thus the new dryer only uses the energy required for its working conditions. With the new TFT touch panel the user has an excellent overview through the implemented flow diagram, with all data at a glance. The clear menu structure and the touch surface ensure a very easy operation.



ZDMC2 – the new system control

Irrespective of what is to be achieved: an increase in productivity, the highest level of operational safety or a reduction in costs. With the new programmable logic controller **ZDMC2** (Parker Zander Dryer Memory Control), the conditions are created to achieve these demanding objectives. Parker Zander is the

first manufacturer to introduce this controller as standard in its heat regenerating dryers (type WVM).

Thanks to the new **ZDMC2** controllers, the vacuum adsorption dryers are currently the most powerful and most efficient in their category in the global market.

The advantages at a glance:

Excellent overview!

On a colour TFT screen with illustrated flow diagram.

Easy operation!

Personnel are able to operate the controls easily, even without a manual, via a menu and touch screen.

High operational safety

With permanent monitoring of all measurements, available by Ethernet, RS232 (Optional Profibus or Modbus), voltage free contacts and analog output signals.

Optimised operation

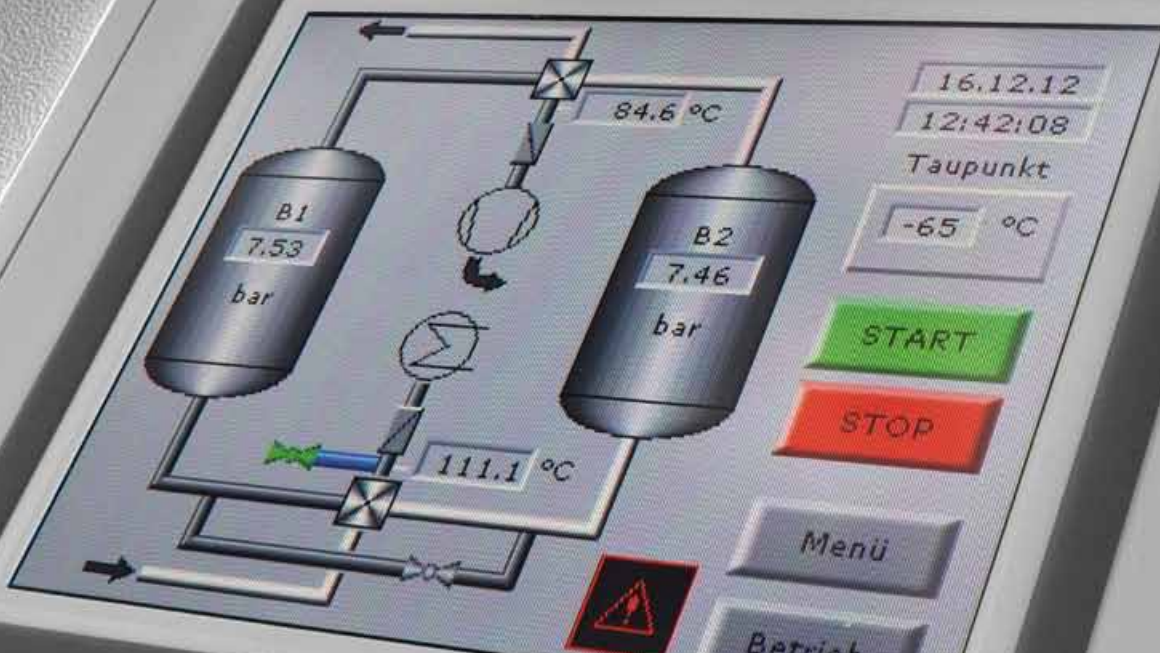
By using the 4 week trend recording of all measured values it is possible to optimise the dryer and identify aged desiccant.

That saves energy costs!

That saves money!



ZDMC2



16.12.12

12:42:08

Taupunkt

-65 °C

START

STOP

Menü

Betrieb



TOUCH

ZDMC2

High security and monitoring

Programming language STEP7
(= Siemens S7) Simple editing and examination by SIEMENS-SIMATIC-S7-Manager.

Software Updates readily available

Software and operating updates by micro SD card, without use of a service technician.

2 volt free contacts

operating signal & common alarm.

2 selectable analogue output signals (4-20 mA)

2 parameters can be selected for retransmission.

Ethernet connection

allows operating parameters transmission to a control room or PC, or a data transfer to Parker Zander. (Connection and communication software is not supplied).

Trend recording and storage on micro SD card.

With the micro SD card facility, data can be downloaded to a PC stored, and submitted to Parker Zander.

Further interfaces

RS 485 Modbus for dryer connection via Modbus RTU protokoll.

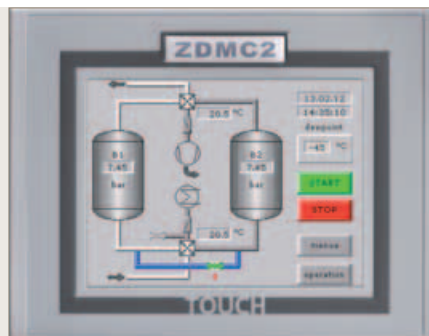


24 MB internal storage and 2 GB micro SD card for archiving of last 4 weeks recordings.



Excellent operational overview on a colour TFT screen. Permanent clear indication of all data at a glance:

- vessel pressures
- heating temperature
- regeneration temperature
- pressure dew-point
- 3 x Spare fields (2 x PT100 and 1x 4-20 mA)



Easy operation via touch screen.

Clearly function illustration from coloured flow diagram.



Simple to operate using menu navigation.

Multiple language selection by touch of the globe symbol.

Technical data

Concept WVM

Technical data

Power supply 24 VDC.
Protection class IP65.

Operating temperature -20 to +60 °C.

Storage temperature -30 to +80 °C.

TFT Touch screen (320 x 240 pixels)
Size (W x H x D): 182 x 140 x 95 mm.

24 MB internal memory and 2 GB
micro SD card for storage of last
4 weeks recordings.

Back up battery life time 10 years.

Ethernet connector RJ45 und traffic-
LEDs for data transfer and remote
control.

Optional Profibus communication
module (Master or Slave).

Input signals

16 digital inputs
24 V voltage bounded,
Input voltage for signal 0 (type)
0 V...+4 V,
Input voltage for signal 1 (type)
+7,5 V...+30 V

4 analog inputs 4-20 mA
separate potential
resolution 12 bits,

4 analog inputs PT100
separate potential
resolution 12 Bit
Temperature range:
-50 ...+300 °C.

Output signals

16 digital transistor outputs
24 V (max. 0,5 A)
voltage bounded,
max. 0,5A/output

8 digital relay outputs 230 V
(max. 3 A)
4 x common connected "L+"
by common fuse (3A flink) per
output
2 x voltage free contacts
(Operating and common alarm)

2 analog outputs 4...20 mA
separate potential
resolution 12 bits. Output refered
to common ground



All measured values over the last 4
weeks are permanently recorded.

Operating and application para-
meters can be analyzed and opti-
mized from this data. These records
supply important information about
the possible cause of dew point
changes.



One touch change of cycle (touch the
green button). Very easy adjustment
of dew-point switching. Accessed via
main menu or by touching the dew-
point box in the operating screen.

Set by touching
the key pad.



Recording of all operating and fault
signals.

All procedures and malfunctions are
stored in registers.

Adsorption Dryer

Concept WVM

Quality

The new CONCEPT WVM dryers are an example of modern engineering technology, giving the user a value for money installation. **It has the highest quality with built-in reliability at the lowest running costs.**

- 1 Low Energy Costs**
savings of 25 % are possible compared to conventional systems.
- 2 Two layered desiccant bed**
balanced desiccant between water resistance and high efficiency water retention for optimum dew point stability.
- 3 Active heating under vacuum**
means that the vapourisation temperature is 98 °C.
- 4 Low regeneration temperature**
for the desiccant bed compared to conventional systems.
- 5 Intensive cooling**
using the vacuum without any heat generation from the vacuum pump.
- 6 Regeneration without purge air**
thanks to the high temperature difference even after the cooling phase.
- 7 Pressure build-up on the wet side**
guarantees no purge air even on the pressure build-up phase.
- 8 Changeover without dew- point peak**
the moisture entering the desiccant bed during the regeneration and cooling phase never reaches the drying zone.
- 9 Reliable dew point down to -70 °C**
standard dew-point available at -25 °C and -40 °C.
- 10 Function alarm**
for pressure, inlet temperature, heating, vacuum pump and vessel changeover in new design.
- 11 Alternative energies**
available for regeneration as an optional extra: steam, hot water. Please consult Parker Zander for other heat sources.





Technical Data

Concept WVM

Order and performance details

Model	Standard order no.	Alternative with insulation order no.	Performance ² in m ³ /h		Nominal width ¹ (nb)	Nominal pressure in bar _e
			PDP -25°C	PDP -40°C		
WVM 40	W40/10VM4-F400CT	W40/10VM4-F400CT/I	420	406	40	10
WVM 50	W50/10VM4-F400CT	W50/10VM4-F400CT/I	510	486	40	10
WVM 65	W65/10VM4-F400CT	W65/10VM4-F400CT/I	640	630	50	10
WVM 85	W80/10VM4-F400CT	W80/10VM4-F400CT/I	850	830	50	10
WVM 120	W120/10VM4-F400CT	W120/10VM4-F400CT/I	1180	1160	80	10
WVM 150	W150/10VM4-F400CT	W150/10VM4-F400CT/I	1500	1470	80	10
WVM 200	W200/10VM4-F400CT	W200/10VM4-F400CT/I	1980	1940	80	10
WVM 235	W235/10VM4-F400CT	W235/10VM4-F400CT/I	2350	2300	100	10
WVM 300	W300/10VM4-F400CT	W300/10VM4-F400CT/I	2930	2870	100	10
WVM 355	W355/10VM4-F400CT	W355/10VM4-F400CT/I	3550	3480	100	10
WVM 410	W410/10VM4-F400CT	W410/10VM4-F400CT/I	4100	4020	150	10
WVM 475	W475/10VM4-F400CT	W475/10VM4-F400CT/I	4740	4650	150	10
WVM 525	W525/10VM4-F400CT	W525/10VM4-F400CT/I	5250	5150	150	10
WVM 620	W620/10VM4-F400CT	W620/10VM4-F400CT/I	6210	6090	150	10
WVM 710	W710/10VM4-F400CT	W710/10VM4-F400CT/I	7100	6960	150	10
WVM 800	W800/10VM4-F400CT	W800/10VM4-F400CT/I	8000	7840	200	10
WVM 920	W920/10VM4-F400CT	W920/10VM4-F400CT/I	9200	9020	200	10
WVM 1080	W1080/10VM4-F400CT	W1080/10VM4-F400CT/I	10800	10580	200	10
WVM 1230	W1230/10VM4-F400CT	W1230/10VM4-F400CT/I	12300	12050	250	10
WVM 1450	W1450/10VM4-F400CT	W1450/10VM4-F400CT/I	14500	14210	250	10

¹ relating to EN 1092-1

² m³ relating to 1 bar(a) and 20 °C; relating to the suction performance of the compressor, compression at 7 bar_e and 35 °C dryer inlet temperature, at 25 °C ambient temperature, 60 % relative humidity.

Correction factors f according to actual minimum operating pressure in bar_e and inlet temperature in °C

Minimum operating pressure in bar _e	Dryer inlet temperature in °C		
	30	35	40
	for pressure dew point PDP -25 °C/-40 °C ¹		
4	0.69	0.44	0.28
5	0.80	0.62	0.42
6	0.90	0.80	0.59
7	1.02	1.00	0.70
8	1.06	1.05	0.79
9	1.17	1.16	0.88
10	1.29	1.28	0.96

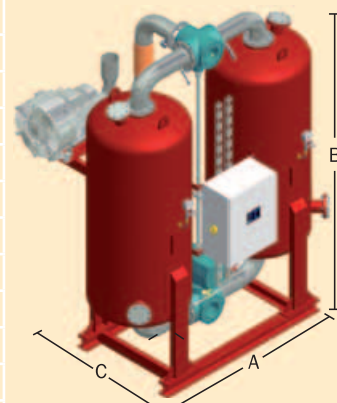
¹ Correction factors relating to the respective, nominal performance at PDP -25 or -40 °C.

Technical Data

Concept WVM

Energy requirements, dimensions and weights of the standard models

Model	installed power kW	Power consumption ¹ kWh/h	Performance ² vacuum pump m ³ /h	A mm	B mm	C mm	Weight kg
WVM 40	5.55	3	125	1140	2230	990	570
WVM 50	5.55	4	125	1140	2230	990	600
WVM 65	9.7	5	210	1260	2300	1110	770
WVM 85	9.7	7	210	1260	2300	1110	800
WVM 120	13.4	8	300	1460	2690	1160	1150
WVM 150	18.2	11	375	1540	2700	1200	1300
WVM 200	23.7	12	550	1605	2750	1405	1650
WVM 235	36.7	16	750	2025	2870	1490	2000
WVM 300	36.7	20	750	2050	2890	1565	2250
WVM 355	43.7	24	900	2160	2960	1750	2650
WVM 410	43.7	28	900	2430	3230	1710	3250
WVM 475	48.7	30	1150	2490	3260	1710	3650
WVM 525	63.2	32	1460	2550	3265	1775	4050
WVM 620	73.2	44	1460	2570	3540	1865	4700
WVM 710	84.2	47	1800	2635	3560	1900	5050
WVM 800	89.2	56	1900	3085	3625	2110	6450
WVM 920	114.2	63	2190	3125	3645	2235	7500
WVM 1080	125.2	72	2480	3225	3710	2285	8700
WVM 1230	151.2	84	2920	3475	4050	2350	11500
WVM 1450	172.2	98	3440	3500	4200	2380	13500



¹ Average energy requirements with dew point controller for orientation (also dependent on installation and load conditions)

² Volume flow (regeneration air) relating to a pressure difference of 100 mbar.

All of the above are approximate figures. Figures for alternative models with insulation differ.

Example of calculation:

Compressed air to be treated

Flow: 4095 m³/h
 Pressure: 9 bar (g)
 Maximum inlet temp: 30 °C
 Dew-point: -25 °C
 Factor from table: 1.17

$$\frac{\text{flow}}{\text{conversion factor}} = \frac{4095 \text{ m}^3/\text{h}}{1.17} = 3500 \text{ m}^3/\text{h}$$

chosen model: WVM 355

Flow: 2800 m³/h
 Pressure: 9 bar (g)
 Maximum inlet temp: 35 °C
 Dew-point: -40 °C
 Factor from table: 1.16

$$\frac{\text{flow}}{\text{conversion factor}} = \frac{2800 \text{ m}^3/\text{h}}{1.16} = 2414 \text{ m}^3/\text{h}$$

chosen model: WVM 300

Calculation of maximum flow

Flow x conversion factor
 3550 x 1.17 = 4153.5 m³/h

Reserve available equals

maximum flow - actual flow
 4153.5 m³/h - 4095 m³/h = 58.5 m³/h

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates,
Dubai

Tel: +971 4 8127100
parker.me@parker.com

AT – Austria, Wiener Neustadt

Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener
Neustadt

Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AZ – Azerbaijan, Baku

Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles

Tel: +32 (0)67 280 900
parker.belgium@parker.com

BY – Belarus, Minsk

Tel: +375 17 209 9399
parker.belarus@parker.com

CH – Switzerland, Etoy

Tel: +41 (0)21 821 87 00
parker.switzerland@parker.com

CZ – Czech Republic, Klecany

Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst

Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup

Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid

Tel: +34 902 330 001
parker.spain@parker.com

FI – Finland, Vantaa

Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve

Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens

Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budapest

Tel: +36 23 885 475
parker.hungary@parker.com

IE – Ireland, Dublin

Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IT – Italy, Corsico (MI)

Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty

Tel: +7 7272 505 800
parker.easteurope@parker.com

NL – The Netherlands, Oldenzaal

Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Asker

Tel: +47 66 75 34 00
parker.norway@parker.com

PL – Poland, Warsaw

Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira

Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest

Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow

Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga

Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica

Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto

Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul

Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev

Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick

Tel: +44 (0)1926 317 878
parker.uk@parker.com

ZA – South Africa, Kempton Park

Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

North America

CA – Canada, Milton, Ontario

Tel: +1 905 693 3000

US – USA, Cleveland

Tel: +1 216 896 3000

Asia Pacific

AU – Australia, Castle Hill

Tel: +61 (0)2-9634 7777

CN – China, Shanghai

Tel: +86 21 2899 5000

HK – Hong Kong

Tel: +852 2428 8008

IN – India, Mumbai

Tel: +91 22 6513 7081-85

JP – Japan, Tokyo

Tel: +81 (0)3 6408 3901

KR – South Korea, Seoul

Tel: +82 2 559 0400

MY – Malaysia, Shah Alam

Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington

Tel: +64 9 574 1744

SG – Singapore

Tel: +65 6887 6300

TH – Thailand, Bangkok

Tel: +662 186 7000-99

TW – Taiwan, Taipei

Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires

Tel: +54 3327 44 4129

BR – Brazil, Sao Jose dos Campos

Tel: +55 800 727 5374

CL – Chile, Santiago

Tel: +56 2 623 1216

MX – Mexico, Apodaca

Tel: +52 81 8156 6000