

2 OZONFILT® And Bono Zon® Ozone Plants

2.6.2

Oxygen Generator For OZONFILT® OZVa 5-7

OXYMAT 020

This compact oxygen generator works on the principle of pressure swing filtration of the surrounding air via a molecular sieve. When supplied with suitably dried compressed air, oxygen is generated with a purity of up to 95 % and a dew point of -70°C . The plant develops a pressure of 4 bar at the oxygen outlet and can be directly connected to the OZVa 5-7.

Technical Data

(at 90 % oxygen yield):

Type		Version 1	Version 2
Capacity	Nm ³ /h	0.9	1.2
Air requirement (min. 6 bar)	Nm ³ /min	0.17	0.24
Power consumption incl. compressor	kW	1.5	2.5
Specific energy requirement	kWh/Nm ³	1.7	2.1

Required components for version 1

	Order no.
OXYMAT 020, 110-240 V / 50-60 Hz	1025383
Reciprocating compressor (oil-lubricated) Atlas Copco LE 2-10 E/100, with 100 l air receiver, 400 V / 50 Hz	1025384
Refrigeration dryer FD 5, 230 V / 50 Hz	1025385
Filter set 006, for LE 2-10 and GX 2-10 FF	1025387
Hose set with quick-release couplings, LE 2-10 to OXYMAT 020 LE 2-10 to OXYMAT 020	1025388
Connecting set with connections for 6x4 mm PTFE hose, between OXYMAT and OZVa	1025395

Required components for version 2

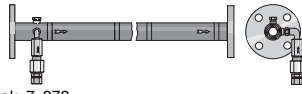
	Order no.
OXYMAT 020, 110-240 V / 50-60 Hz	1025383
Atlas Copco Aircenter GX 2-10 FF/200, with screw compressor (oil injection), integrated refrigeration drying and 200 l air receiver, 400 V / 50 Hz	1025386
Filter set 006, for LE 2-10 and GX 2-10 FF	1025387
Hose set with quick-release couplings, for connection of air treatment GX 2-10 FF with OXYMAT 020	1025389
Connecting set with connections for 6x4 mm PTFE hose, between OXYMAT and OZVa	1025395

Accessories

	Order no.
PTFE hose 6x4 mm, Admissible operating pressure 15 bar, sold in meters	037426
Service kit for Atlas Copco LE 2-10, (recommended after 8000 running hours)	1025390
Service kit for Atlas Copco GX 2-10 FF, (recommended after 8000 running hours)	1025391
Service kit 006, for Atlas Copco LE 2-10 and GX 2-10 FF	1025392

2 OZONFILT[®] And Bono Zon[®] Ozone Plants

2.6.3 Static Helical Mixer Made From PVC Or Stainless Steel



pk_7_072
Static Helical Mixer

Designed for intensive mixing of gas with liquid flows. 4 helical blades ensure optimal mixing of the ozone with minimal pressure drop (0.1 bar per blade at maximum flow). For optimal mixing results, the specified flow range of the static helical mixer must be complied with.

Version with loose flanges to DIN 2501 and integrated injection point made from stainless steel with couplings for 12 mm diam. stainless steel tube, or 12/9 mm PTFE hose, using stainless steel support inserts. In addition, the injection point is fitted with a non-return valve to protect the ozone plant from reverse flowing water. The mixers are manufactured as grease-free, so they are also suitable for Types OZVa 5-7. The stainless steel version has a G 1/4" pressure gauge tapping at the ozone mixing point.

Flow m ³ /h	Material	Overall length mm	Connector	Order no.
5 – 10	PVC-U	718	DN 40	1024324
10 – 15	PVC-U	718	DN 50	1024325
15 – 25	PVC-U	718	DN 65	1024326
25 – 35	PVC-U	1,100	DN 80	1024327
35 – 50	PVC-U	1,100	DN 100	1024328
50 – 90	PVC-U	-	DN 125	1034641
95 – 160	PVC-U	-	DN 150	1034640
5 – 10	1.4404	718	DN 40	1022503
10 – 15	1.4404	718	DN 50	1022514
15 – 25	1.4404	718	DN 65	1022515
25 – 35	1.4404	1,100	DN 80	1022516
35 – 50	1.4404	1,100	DN 100	1024154

Other sizes on request

Connecting parts for the gas pipeline

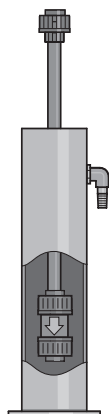
	Order no.
Stainless steel pipe 12/10 mm, Sold by meter	015743
Stainless steel pipe 12/10 mm, grease-less, 1.4 m	1022463
PTFE hose 12/10 mm, grease-less, sold in meters	037428
Stainless steel support inserts, 2 No. for 12/9 mm PTFE hose, grease-less	1025397
Stainless steel coupling 12 mm - R 1/4, grease-less	1025755
Stainless steel fitting 12 mm - R 3/8, grease-less	1034642
Stainless steel 90° elbow D 12 - D 12, grease-less	1022462
Stainless steel pressure relief valve, Adjustable pressure range 0.07 – 2 bar, Connection size: 1/4" NPT, 2 additional inputs for connecting 2 pressure gauges.	1029032

2 OZONFILT® And Bono Zon® Ozone Plants

2.6.4 Accessories For Bono Zon® Ozone Plants

Water trap

Water trap as a vacuum breaker to prevent backflow of water into the ozone generator. Pre-assembled unit consisting of PVC loss vessel including overflow with DN 10 hose spigot, and a non-return valve with DN 20 PVC coupling.



pk_7_071
Water trap

	Order no.
Water trap	1008781

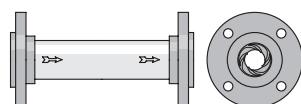
Ozone mixing

Static mixer designed for intensive mixing of gas with liquid flows. Made from PVC-U with two built-in helical mixers and a mixing section matched to the throughput.

The size depends only on the quantity of water to be ozonised.

Pressure rating: PN 4, other pressure ratings available on request.

Connection DN 65-200: loose flanges PN 10.



pk_7_044
Static mixer

Recommended flow m ³ /h	Flange connection DN mm	Length mm	Order no.
15-25	65	350	1007841
25-35	80	450	1007842
35-50	100	550	1007843
50-90	125	650	1007864
90-160	150	800	1007865
160-250	200	1000	1007866
250-350	200	1000	1007867

Higher flows on request.

Stainless steel version: on request

Ozone pumping devices

Complete ozone pumping devices consist of booster pump, injector and mixer and are assembled to suit specific project requirements. Design and technical details on request.

Vent valves

Vent valves made from stainless steel 1.4571 in ozone-resistant version for mounting on reaction tanks.

Suitable for BONA types	Connector	Pressure bar	Order no.
1B	R 3/4" internal x R 1/2" external	0.5 – 6.0	302525
1A, 1D	R 1" internal x R 1/2" external	0.5 – 6.0	302526
to 3A, 3D	R 1" internal x R 3/4" external	0.5 – 2.0	303845

2 OZONFILT[®] And Bono Zon[®] Ozone Plants

2.6.5 Residual Ozone Gas Destructor

Residual ozone gas destruction is used to remove traces of ozone gas from the exhaust air coming from the reaction tank. Because the exhaust air from the reaction tank still contains water, the pipework should be suitably routed so as to ensure that the water is drained off at the inlet side.

As the exhaust air after the residual ozone gas destructor is still up to 100 % saturated with water vapour, and because small temperature fluctuations, even on the outlet side, can lead to flowback of condensate, a suitable drainage connection must be provided here too.

The exhaust air from any downstream filter plant that may be fitted can also be routed via this ozone gas destruction unit.

PVC version

Residual ozone destructor based on activated carbon granules in a PVC housing.

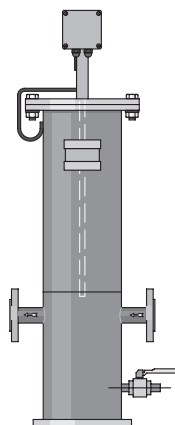
	Type	Ozone quantity g/h	Order no.
Residual ozone destructor 3 L	10	10	879022
Residual ozone destructor 14 L	40	40	1004267
Residual ozone destructor 30 L	100	100	879019
Residual ozone destructor 60 L	200	200	879018

Note:

The stated ozone quantities refer to quantities added to the raw water. The residual ozone destructor is designed for the normal residual ozone concentration found in swimming pool applications. It may only be used in plants with air as operating gas and a maximum added quantity of 1.5 g of ozone/m³treated water.

Stainless steel version

Residual ozone destructor based on a maintenance-free MnO catalytic converter with integrated heating, 230 V, 50-60 Hz. Connections Rp 1/2" or flanges to DIN 2642, PN10. Types 18 to 110 m³/h also fitted with Rp 1/2" ball valve as condensate drain.



pk_7_073
Residual ozone destructor

Max. gas flow m ³ /h	Heating power W	Dimensions H x W x D mm	Connector	Order no.
1.5	100	700 x 110 x 180	Rp 1/2"	1018440
8.0	100	735 x 110 x 235	Rp 1/2"	1018406
18.0	140	1,154 x 275 x 240	DN 25	1019155
28.0	140	1,154 x 300 x 259	DN 25	1021037
40.0	500	1,156 x 330 x 264	DN 25	1026335
73.0	500	1,158 x 400 x 320	DN 32	1019971
110.0	500	1,160 x 450 x 375	DN 40	1027238

Note:

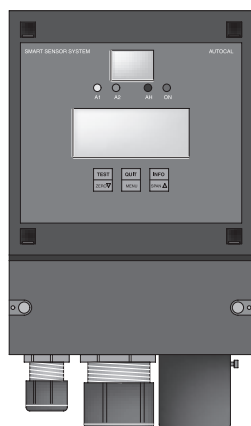
The catalytic residual ozone destructor must only be used in chlorine-free gas flows. The PVC version must therefore be used for swimming pool applications.

2 OZONFILT® And Bono Zon® Ozone Plants

2.6.6

Room Air Monitoring

Gas detectors GMA 36 ozone and oxygen



pk_7_004_1
 Gas warning devices GMA 36

Calibratable gas warning devices with digital display of the detected gas concentration. 2 relay outputs for issue of infringements of warning and alarm thresholds, to switch external alarm sounder and for interlocking with the ozone plant. The warning message relay is self resetting, the alarm relay is a latching type and must be acknowledged at the device. 1 self-resetting relay for connection to an alarm horn is switched on fault conditions and when the alarm limit is exceeded.

The ozone sensor responds to all strongly oxidising gases, hence it responds to chlorine gas or chlorine dioxide too.

The GMA 36 oxygen warning device is intended for installations where an unacceptably high oxygen enrichment of the ambient air is possible.

Technical Data

Type		Ozone	Oxygen
Warning at approx.	ppm/vol%	0.3	23.0
Alarm at approx.	ppm/vol%	0.5	25.0
Permissible ambient temperature	°C	-15...45	-15...45
Protection class housing		IP 54	IP 54
Dimensions (without PGs, without sensor) mm		247 x 135 x 95	247 x 135 x 95
H x W x D			
Supply	V/Hz	85 – 264/50 – 60	85 – 264/50 – 60
Power consumption	W	5	5
Warm-up phase max.	s	150	20
Relay contact "Warning", self-resetting	V/A	230/1	230/1
Relay contact "Alarm", latching	V/A	230/1	230/1
Relay contact "Horn", latching, can be acknowledged	V/A	230/1	230/1
Sensor measuring principle		electrochemical	electrochemical
Sensor service life (depending on environmental cond.)	Years	2–3	2–3

	Type	Order no.
Gas warning device Type GMA 36	Ozone	1023155
Gas warning device Type GMA 36	Oxygen	1023971

Spareparts

	Order no.
Replacement sensor for chlorine, chlorine dioxide, ozone	1023314
Replacement sensor for oxygen	1023851
Replacement sensor for gas warning devices in the Life CGM range	1003009

Mounting kit

	Order no.
Mounting kit for direct mounting of the CGM 1060 and GMA 36 ozone warning devices on the housing of the OZVa plants	1004248
Support bracket for mounting kit for all types of OZVa except OZVa 1/2 with transparent mixing system	1005854