

# 2 SUBMERGED AERATORS



Venturi-type submerged aerators ensure an efficient combined mixing and aeration action and they are especially suitable for homogenization tanks and storm water retention tanks.

They are made by connecting submersible pumps with power levels up to 30 kW and channel-type impellers with large free passage combined with "OXY" series ejector devices.

OXY 80 and 150 units have a polyurethane (Vulkollan) diaphragm, easily replaceable without dismantling the pump from the ejector thanks to a patented system. The OXY80 device has a flange suitable for connection to electric pumps having delivery DN80 and DN100.

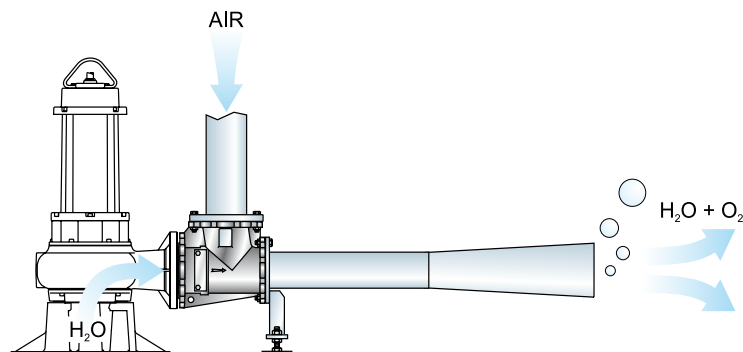
For unbeatable versatility, Zenit has created three different product lines, called respectively:

- OXY
- SYSTEM OXY
- JETOXY



## Operating principle

In OXY devices, the liquid conveyed is mixed with the air by the "Venturi" effect, creating a mixture containing medium-fine air bubbles that increase the contact surface area and provide highly efficient oxygen transferring.



## Application

OXY submerged oxygenation systems are used in civil and industrial wastewater and sludge treatment plants, or whenever combined oxygenation and mixing are required.

These systems can be installed without emptying the tank.



# 2.1 OXY

## Key to product codes

# OXY 8055



## OXY 50



### CHARACTERISTICS

- Cast iron structure (GJL-250)
- Suitable for use with DRO and DGO pumps
- can be permanently coupled to the pump or mounted on the bottom of the tank using the automatic coupling system (DAC type)

### COMPOSITION OF OXY 50

- OXY body (cone + integral diaphragm)
- Sliding flange with gasket and stainless steel screws
- Pipe guide



A special technical detail on the OXY body allows mechanical fixing (using screws) between the ejector output flange and the sliding flange connected to the pump, creating a rigid system even suitable for mobile installation.

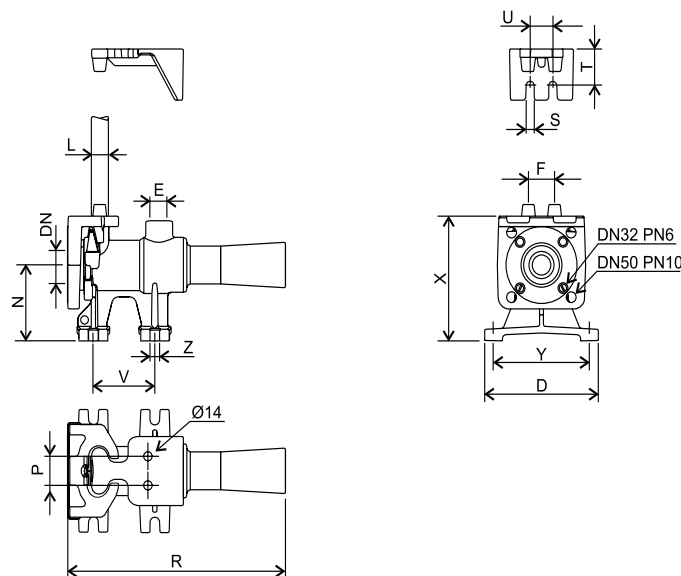
### Construction materials

Body	Cast iron GJL-250
Diffuser cone	Cast iron GJL-250
Nuts and bolts	Stainless steel
Paintwork	Environment friendly epoxy-vinyl

### Models

- OXY 5027

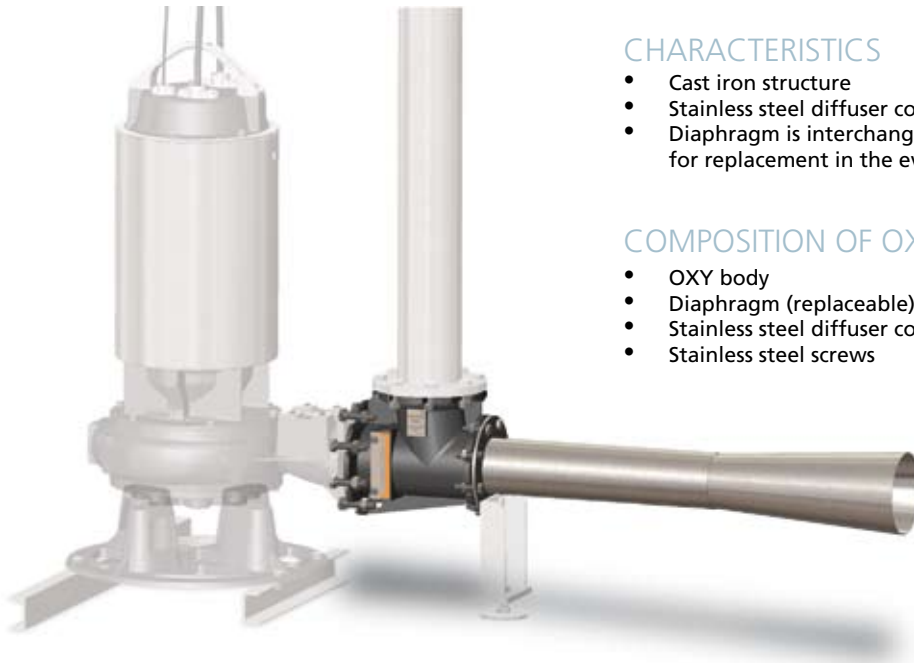
### Overall dimensions



Measurements in mm

	DN	D	E	F	L	N	P	R	S	T	U	V	X	Y	Z	Kg
OXY 5027	DN32 PN6 - DN50 PN10	170	3/4"	40	3/4"	105	40	325	12	50	35	90	170	140	14	10

# OXY 80-150



## CHARACTERISTICS

- Cast iron structure
- Stainless steel diffuser cone
- Diaphragm is interchangeable for flow rate adjustment or for replacement in the event of wear (PATENTED SYSTEM)

## COMPOSITION OF OXY 80-150

- OXY body
- Diaphragm (replaceable)
- Stainless steel diffuser cone
- Stainless steel screws



PATENTED SYSTEM

## Construction materials

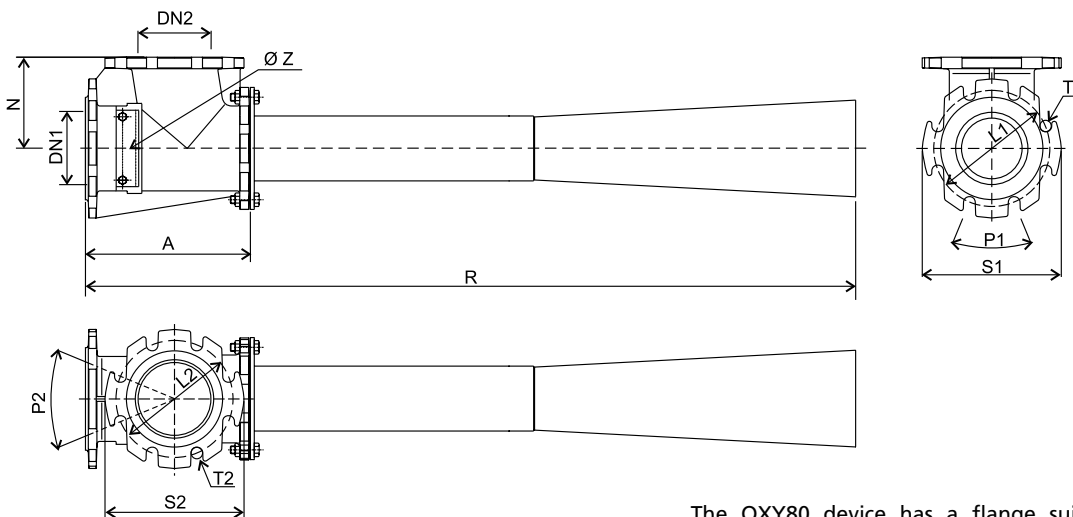
Body	Cast iron GJL-250
Diffuser cone	AISI 304 Stainless Steel
Diaphragm	Vulkollan
Nuts and bolts	A2 steel
Paintwork	Environment-friendly epoxy-vinyl

## Models

- OXY 8055
- OXY 8063
- OXY 15080
- OXY 15095

OXY 80 and 150 range units can be combined with the coupling foot base horizontal outlet of the same diameter (DAC H). This combination allows the OXY body to be fixed to the bottom of the tank for easier pump maintenance, and also allowing it to be used in more than one point (not simultaneously).

## Overall dimensions



The OXY80 device has a flange suitable for connection to electric pumps having delivery DN80 and DN100.

	Z	A	DN1	DN2	L1	L2	N	P1	P2	R	S1	S2	T1	T2	Kg
OXY 8055	55	250	80-100	100	160-180	180	145	45°-90°	45°	1000	200	220	17	20	19
OXY 8063	63	250	80-100	100	160-180	180	145	45°-90°	45°	1000	200	220	17	20	19
OXY 15080	80	340	150	150	240	240	190	45°	45°	1500	285	285	24	24	48
OXY 15095	95	340	150	150	240	240	190	45°	45°	1500	285	285	24	24	48

Measurements in mm

## 2.2 SYSTEM OXY

### SYSTEM OXY 50



#### SYSTEM OXY 50 COMPOSITION

- OXY body (cone + integral diaphragm)
- Sliding flange with gasket and stainless steel screws
- Pipe guide
- Galvanized steel base



A special technical detail on the OXY body allows mechanical fixing (using screws) between the ejector output flange and the sliding flange connected to the pump, creating a rigid system even suitable for mobile installation.

#### Models

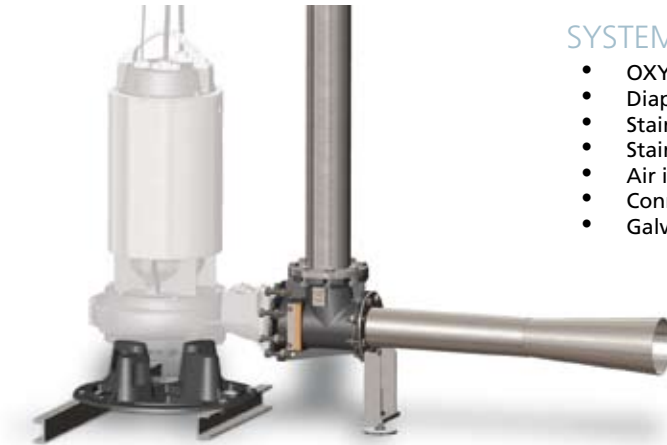
	OXY System	OXY Ejector		Intake pipeline	
	DN (mm)	Nr.	Tipo	L max. (m) (*)	Ø
S-OXY 50 1/5027	50	1	5027	(**)	3/4" (**)

(\*) Maximum installation depth

(\*\*) Intake pipeline not supplied

For overall dimensions, see drawing of JETOXY 50

### SYSTEM OXY 80÷300



#### SYSTEM OXY 80÷300 COMPOSITION

- OXY body
- Diaphragm (interchangeable)
- Stainless steel diffuser cone
- Stainless steel screws
- Air intake pipe with flue filter and galvanized steel lifting hook
- Connecting tie-rod between pump and air intake pipe
- Galvanized steel/spheroidal cast iron base

#### Models

	OXY System	OXY Ejector		Air intake pipe	
	DN (mm)	Nr.	Tipo	L max. (m) *	DN (mm)
S-OXY 80 1/8055 35	80/100	1	8055	3.50	100
S-OXY 80 1/8055 50	80/100	1	8055	5.00	100
S-OXY 80 1/8063 35	80/100	1	8063	3.50	100
S-OXY 80 1/8063 50	80/100	1	8063	5.00	100
S-OXY 150 1/15080 35	150	1	15080	3.50	150
S-OXY 150 1/15080 50	150	1	15080	5.00	150
S-OXY 150 1/15095 35	150	1	15095	3.50	150
S-OXY 150 1/15095 50	150	1	15095	5.00	150
S-OXY 250 2/15095 35	250	2	15095	3.50	200
S-OXY 250 2/15095 50	250	2	15095	5.00	200
S-OXY 300 2/15095 35	300	2	15095	3.50	200
S-OXY 300 2/15095 50	300	2	15095	5.00	200

\* Maximum installation depth

# 2.3 JETOXY

## Submerged aeration systems

### JETOXY 50

JETOXY 50 SYSTEMS include a Venturi-type ejector coupled to a submersible electric pump rated from 0.37 to 1.5 kW with open multi-channel or vortex impeller.

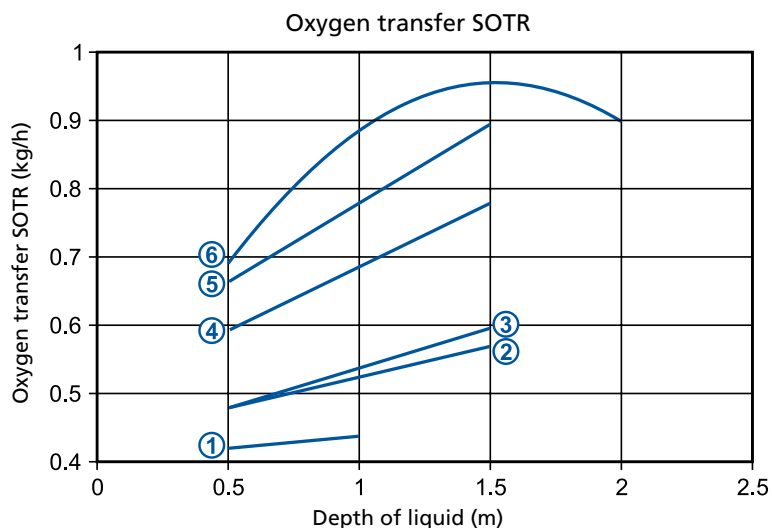
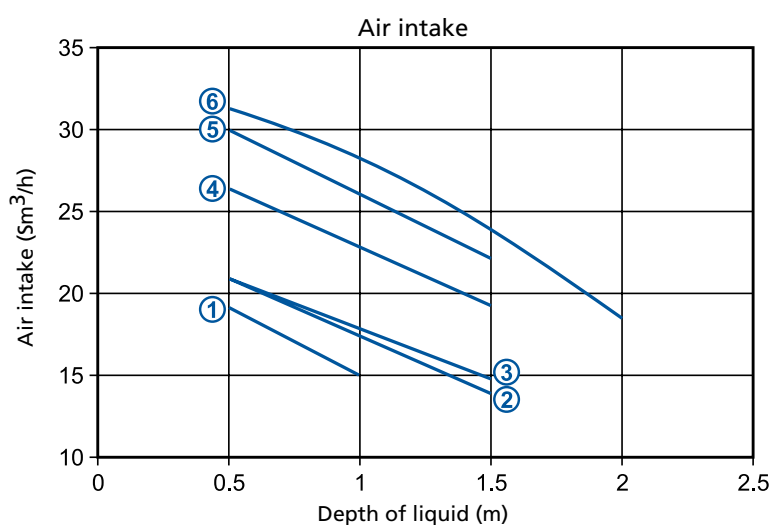
JETOXY SYSTEM models can be selected on the basis of the performance curve best suited to requirements, optimizing consumption.

#### Application

Fish farms, small water treatment tanks, holding pits.



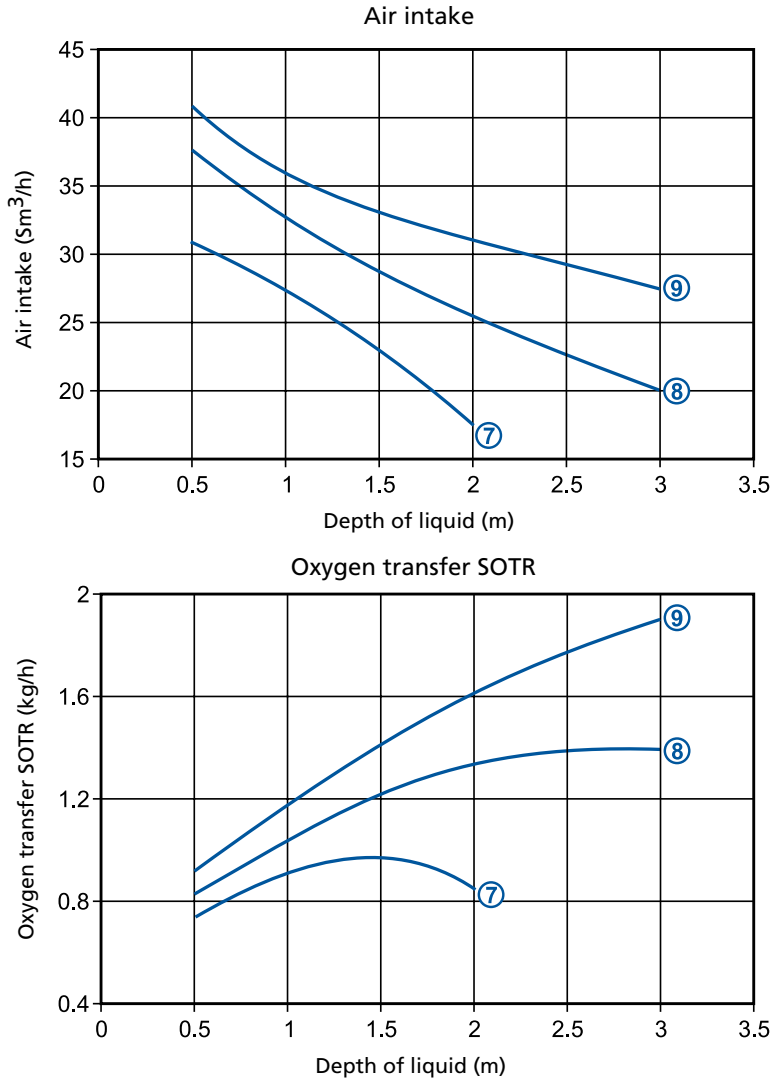
#### Performance of models with DG hydraulic units for sewage liquids



Curve	Model	Ejector			Electric pump			
		No.	Type	ø diaphragm (mm)	Model	kW	A	Poles
1	J-OXY 1 DGO 50/2	1	5027	27	DGO 50/2/G50H A	0.37	0.94	2
2	J-OXY 1 DGO 75/2	1	5027	27	DGO 75/2/G50H A	0.55	1.4	2
3	J-OXY 1 DGO 100/4	1	5027	27	DGO 100/4/G50H A	0.63	1.9	4
4	J-OXY 1 DGO 100/2	1	5027	27	DGO 100/2/G50H A	0.88	2.3	2
5	J-OXY 1 DGO 150/2	1	5027	27	DGO 150/2/G50H A	1.1	2.7	2
6	J-OXY 1 DGO 200/2	1	5027	27	DGO 200/2/G50H A	1.5	3.6	2

The technical data in the table refer to power supply voltage 400V/3/50Hz. Refer to the technical catalogue for a full view of the voltages available.

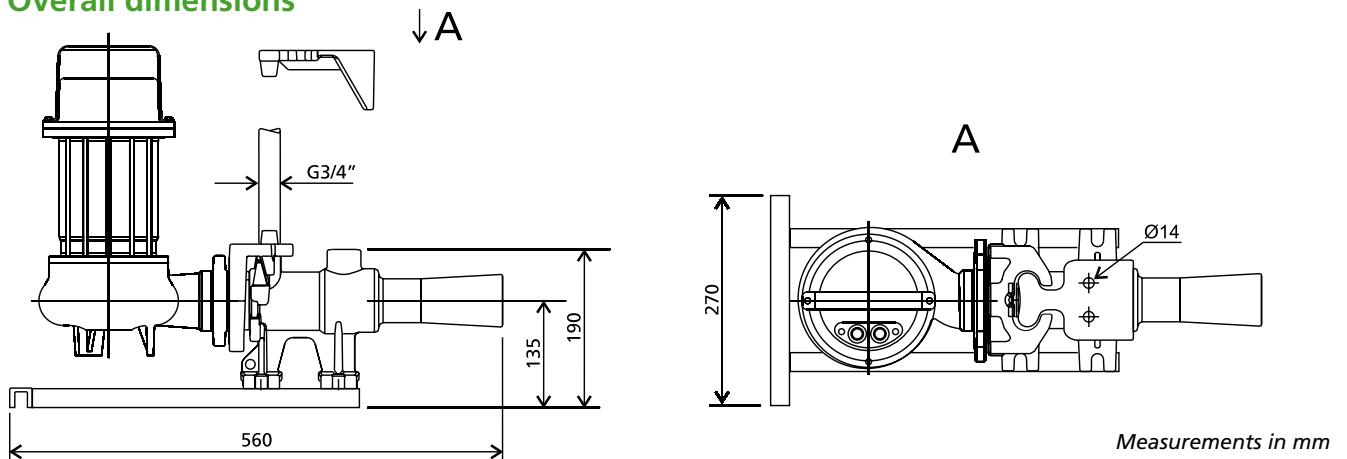
## Performance of models with DR hydraulic units for clean water



Curve	Model	Ejector			Electric pump			
		No.	Type	ø diaphragm (mm)	Model	kW	A	Poles
7	J-OXY 1 DRO 100/2	1	5027	27	DRO 100/2/G50H A	0.88	2.3	2
8	J-OXY 1 DRO 150/2	1	5027	27	DRO 150/2/G50H A	1.1	2.7	2
9	J-OXY 1 DRO 200/2	1	5027	27	DRO 200/2/G50H A	1.5	3.6	2

The technical data in the table refer to power supply voltage 400V/3/50Hz. Refer to the technical catalogue for a full view of the voltages available.

### Overall dimensions

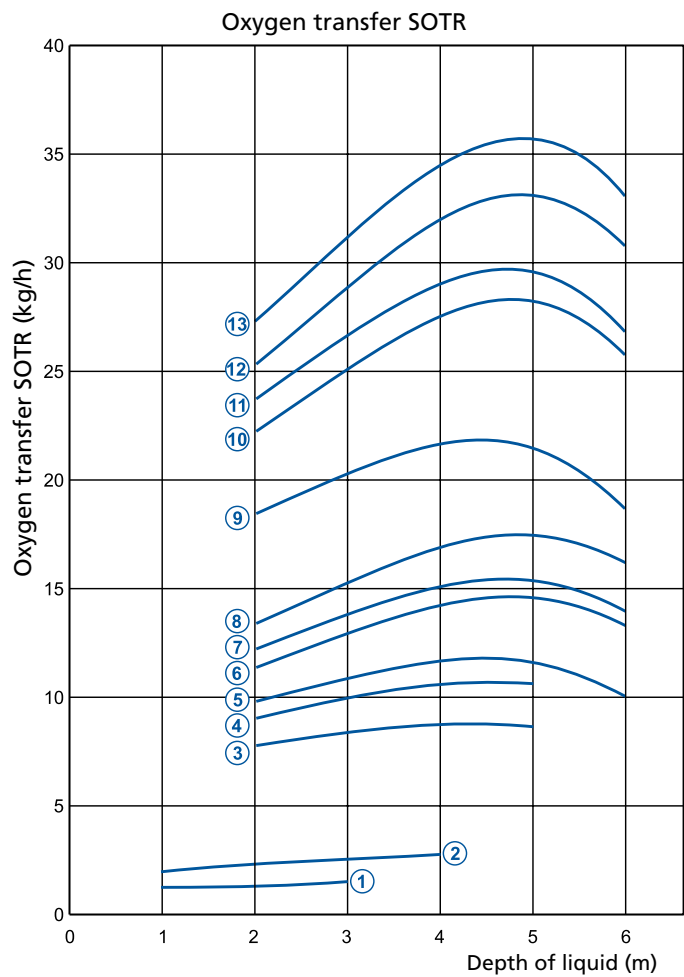
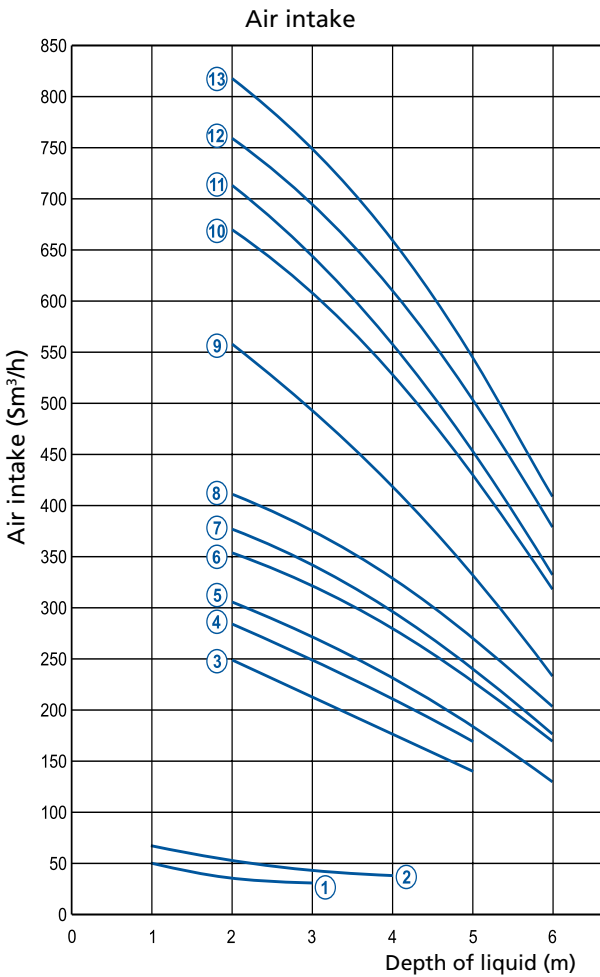
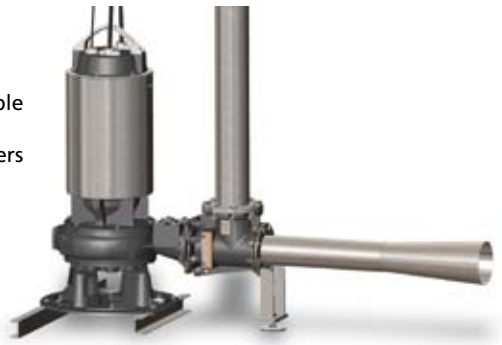


# JETOXY 80÷300

JETOXY 80÷300 units include one or more Venturi-type ejectors with replaceable diaphragm coupled to a submersible electric pump rated from 2.2 to 30 kW . Open multi-channel, open single-channel, and closed single or dual-channel impellers may be used depending on the type of liquid to be processed.

## Application

Holding, homogenization and stabilization tanks, storm water retention tanks, oxidation tanks.



Curve	Model	Ejector			Electric pump				Air intake pipe		Power **	
		No.	Type	∅ diaphragm	Model	P1 (kW)	P2 (kW)	A	Poles	max L. (m)*		DN (mm)
1	J-OXY 1/35 MAN 300/4	1	8055	55	MAN 300/4/80 A	2.9	2.2	5.8	4	3.5	100	2.8
2	J-OXY 1/35 MAN 400/4	1	8055	55	MAN 400/4/80 A	3.8	3.0	7.3	4	3.5	100	3.3
3	J-OXY 1/35(50) DRP 750/4	1	15095	95	DRP 750/4/150 A	7.9	6.5	14.9	4	3.5(5)	150	7.8
4	J-OXY 1/35(50) SMP 750/6	1	15095	95	SMP 750/6/200 A	8.1	6.1	15.2	6	3.5(5)	150	8.0
5	J-OXY 1/35(50) DRP 1000/4	1	15095	95	DRP 1000/4/150 A	10.8	8.9	20.0	4	3.5(5)	150	10.1
6	J-OXY 1/35(50) SBP 1500/6	1	15095	95	SBP 1500/6/200 A	15.7	12.3	28.2	6	3.5(5)	150	13.0
7	J-OXY 1/35(50) SMP 1500/4	1	15095	95	SMP 1500/4/150 A	15.8	13.6	28.2	4	3.5(5)	150	16.0
8	J-OXY 1/35(50) DRP 2000/4	1	15095	95	DRP 2000/4/150 A	19.6	16.4	36.0	4	3.5(5)	150	18.4
9	J-OXY 2/35(50) SBP 1500/6	2	15095	95	SBP 1500/6/250 A	15.7	12.3	28.2	6	3.5(5)	200	15.5
10	J-OXY 2/35(50) SBN 2500/6	2	15095	95	SBN 2500/6/250 A	22.8	18.5	40.0	6	3.5(5)	200	22.7
11	J-OXY 2/35(50) SBN 3000/4	2	15095	95	SBN 3000/4/250 A	26.0	22.0	43.5	4	3.5(5)	200	25.0
12	J-OXY 2/35(50) SBN 3000/6	2	15095	95	SBN 3000/6/250 A	26.7	22.0	46.0	6	3.5(5)	200	25.7
13	J-OXY 2/35(50) SBN 4000/4	2	15095	95	SBN 4000/4/250 A	36.0	30.0	61.0	4	3.5(5)	200	34.6

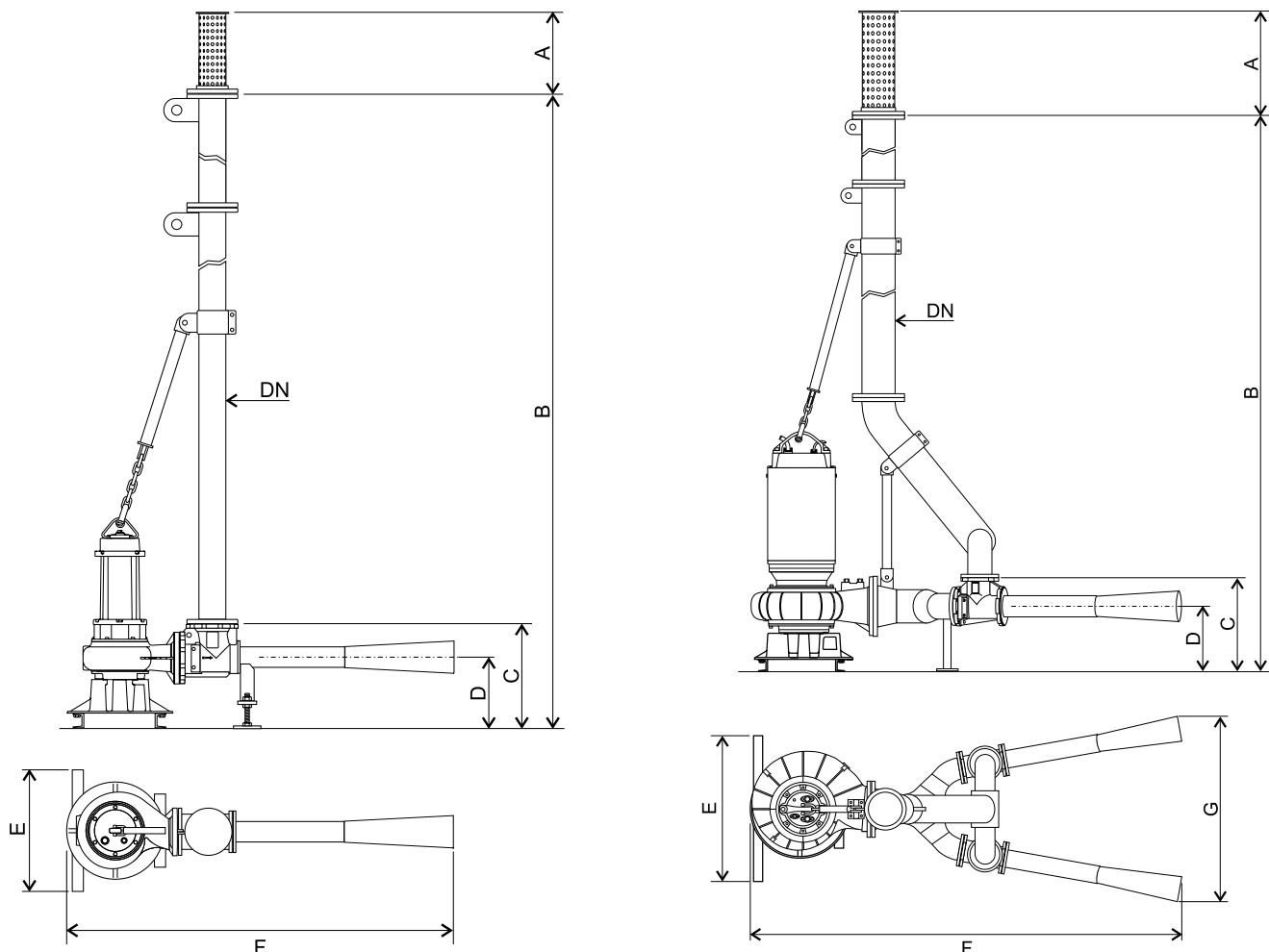
The technical data in the table refer to power supply voltage 400V/3/50Hz. Refer to the technical catalogue for a full view of the voltages available.

\* Maximum installation depth with standard air intake pipe. For greater depths, contact our technical service.

\*\* Power absorbed from the mains throughout the working range



## Dimensions and weights



## SYSTEM OXY

Model	Dimensions (mm)							max. submergence (m)			
								3.5 m		5.00 m	
	A	C	D	E	F	G	B	Kg	B	Kg	
S-OXY 80 1/8055(63) 35	340	450	300	800	-	-	4050	105	-	-	
S-OXY 150 1/15080(95) 35	480	450	300	1200	-	-	4050	194	-	-	
S-OXY 250 2/15095 35	690	635	450	1200	-	1420	4330	356	-	-	
S-OXY 300 2/15095 35	690	635	450	1200	-	1420	4330	356	-	-	
S-OXY 80 1/8055(63) 50	340	450	300	800	-	-	-	-	5550	125	
S-OXY 150 1/15080(95) 50	480	450	300	1200	-	-	-	-	5550	271	
S-OXY 250 2/15095 50	690	635	450	1200	-	1420	-	-	5830	400	
S-OXY 300 2/15095 50	690	635	450	1200	-	1420	-	-	5830	400	

## JETOXY

Model	Dimensions (mm)								max. submergence (m)			
									3.5 m		5.00 m	
	A	C	D	E	F	G	DN	B	Kg	B	Kg	
J-OXY 1/35 MAN 300/4	340	450	300	800	1470	-	100	4050	191	-	-	
J-OXY 1/35 MAN 400/4	340	450	300	800	1470	-	100	4050	194	-	-	
J-OXY 1/35(50) DRP 750/4	480	450	300	1200	2000	-	150	4050	317	5550	353	
J-OXY 1/35(50) SMP 750/6	480	450	300	1200	2500	-	150	4050	369	5550	405	
J-OXY 1/35(50) DRP 1000/4	480	450	300	1200	2000	-	150	4050	325	5550	361	
J-OXY 1/35(50) SBP 1500/6	480	450	300	1200	2500	-	150	4050	424	5550	460	
J-OXY 1/35(50) SMP 1500/4	480	450	300	1200	2250	-	150	4050	385	5550	421	
J-OXY 1/35(50) DRP 2000/4	480	450	300	1200	2150	-	150	4050	407	5550	443	
J-OXY 2/35(50) SBP 1500/6	690	635	450	1200	2950	1420	200	4330	609	5850	653	
J-OXY 2/35(50) SBN 2500/6	690	635	450	1200	3050	1420	200	4330	836	5850	880	
J-OXY 2/35(50) SBN 3000/4	690	635	450	1200	2950	1420	200	4330	758	5850	802	
J-OXY 2/35(50) SBN 3000/6	690	635	450	1200	3050	1420	200	4330	876	5850	920	
J-OXY 2/35(50) SBN 4000/4	690	635	450	1200	2950	1420	200	4330	774	5850	818	