

Aerator Type ABS Venturi Jet

SULZER

Jet aerator with single or twin diffuser pipes, for fixed or portable installation, coupled to a Premium Efficiency pump from the XFP range.

Applications

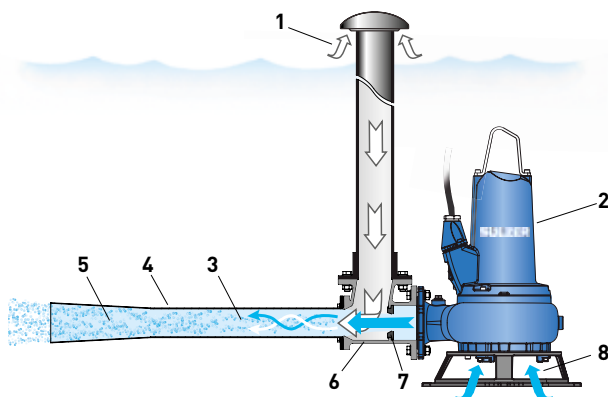
For the combined aeration and mixing of wastewater in small and medium sized tanks. Also for the cleaning of storm water tanks and for use in balancing tanks where a combination of aeration and mixing reduces septicity and minimizes odours.

Features

- Stand-alone, self-aspirating system, with the option of fixed installation with guide rail and pedestal, or portable installation with stand. The portable option is especially suitable for emergency or intermittent aeration tasks and allows for variable positioning in the tank.
- Uses standard XFP pump featuring continuously rated Premium Efficiency motor, temperature and seal monitoring, and double mechanical seals.
- Blockage-free hydraulic design with Contrablock impeller.
- Lower noise levels and reduced spray compared to surface systems.
- Maximum allowable temperature of the medium for continuous operation is 40 °C.

Venturi injection principle

The venturi jet aerator is based on the injection principle that produces an effective air-water mix which results in optimum aeration and suspension of solids. The velocity of the primary flow of liquid from the pump is accelerated when pumped through the smaller nozzle inlet, lowering the internal pressure which draws in the secondary flow of air through the air inlet pipe. The liquid and air flows are then mixed in the turbulence of the diffuser pipe and ejected as a jet of fine air bubbles into the tank.



- | | |
|-------------------------|----------------------------|
| 1. Air inflow | 5. Mixed flow |
| 2. XFP submersible pump | 6. Venturi chamber housing |
| 3. Mixing zone | 7. Nozzle inlet |
| 4. Diffuser pipe | 8. Liquid inflow |



Motor

Premium Efficiency IE3, three-phase, squirrel-cage motor; 460 V; 60 Hz; 4-pole (1750 r/min) and 6-pole (1180 r/min).

Protection type: IP 68

Stator insulation: Class H.

Start-up: DOL (direct on line)

Cooling: 100C - 150E self-cooling,
150G & 201G version with closed cooling system.

Service factor: 1.3

Notes

1. Stand and pedestal supplied as accessories.
2. Air inflow pipe and fittings, elbows, and flanges supplied by the customer.

Materials

	Description	Material
Aerator	Diffuser pipe	Stainless steel 1.4301 (AISI 304)
	Venturi chamber housing	Cast iron EN-GJL-200
Pump	Motor housing	Cast iron EN-GJL-250
	Motor shaft	Stainless steel 1.4021 (AISI 420)
	Impeller	Cast iron EN-GJL-250
	Volute	Cast iron EN-GJL-250
	Bottom plate	Cast iron EN-GJL-250
	Lifting hoop	Stainless steel 1.4401 (AISI 316)
	Fasteners	Stainless steel 1.4401 (AISI 316)

Technical data

XFP pump	Pump discharge DN	Aerator inlet DN	Nozzle ø mm	Water flow m ³ /h	Motor power * (kW)		Rated current (A)	Cable size	Weight ** (pump) kg
					P ₁	P ₂			
100C-CB1.2-PE20/6	100	100	55	50	2.4	2.0	4.2	SOOW 14/7	109
100C-CB1.1-PE20/6	100	100	55	70	2.4	2.0	4.2	SOOW 14/7	109
100C-CB1.4-PE35/4	100	100	55	100	3.9	3.5	6.2	SOOW 14/7	109
150E-CB1.7-PE45/4	150	150	80	140	5.0	4.5	8.2	SOOW 14/7	168
150E-CB1.6-PE75/4	150	150	80	190	8.2	7.5	13.8	SOOW 12/7	186
150E-CB1.4-PE105/4	150	150	80	240	11.4	10.5	17.7	SOOW 10/7	198
150G-CB1.7-PE185/4	150	150	80	315	19.8	18.5	32.3	AWM 8/4+16/3	445
201G-CB2.2-PE200/6 ⁽¹⁾	200	150	80	500	21.5	20.0	32.7	AWM 8/4+16/3	475

⁽¹⁾ XFP 201G requires twin aerators. DN 150 T-piece, 2 x DN 150 elbows and DN 200 / DN 150 adaptor flange required for connection to pump discharge.

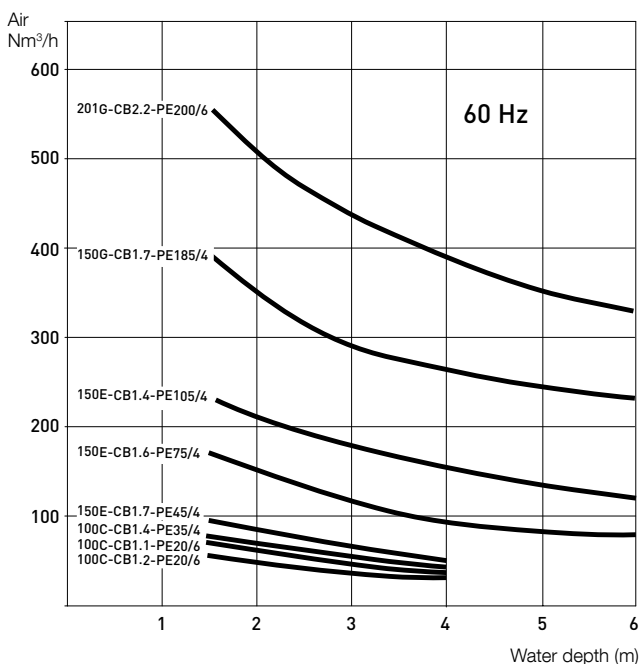
* P₁ = power at mains. P₂ = power at motor shaft.

** Aerator weight: DN 100 = 20 kg, DN 150 = 40 kg (does not include air inlet pipe or fittings). Portable stand: 100C = 9.5 kg, 100 & 150E = 10.5 kg, 150 & 201G = 17.5 kg.

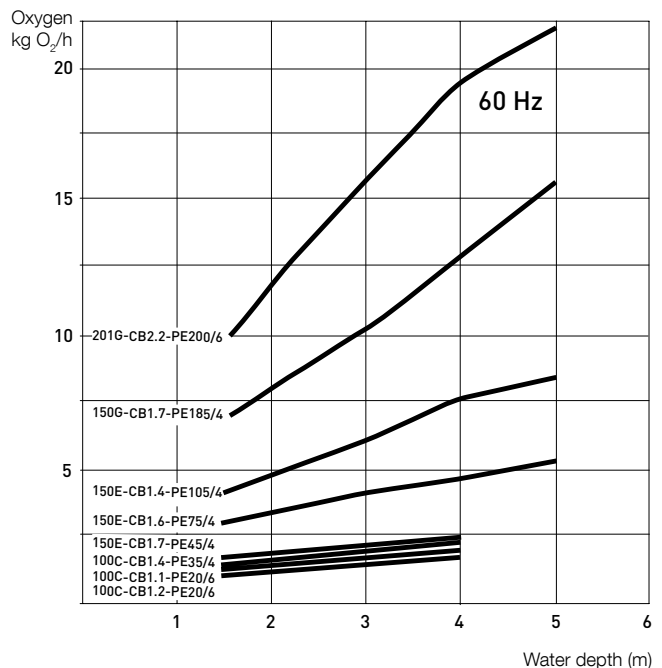
Aerator selection / Tank dimensions (m)

XFP pump	Wastewater tank (sample size)			Storm water tank (sample size)		
	Rectangular	Square	Circular	Rectangular (outflow at one side)	Rectangular (central channel)	Circular (central outflow)
100C-CB1.2-PE20/6	6.0 X 4.0	4.9	ø 5.5	-	-	-
100C-CB1.1-PE20/6	7.2 X 4.8	5.9	ø 6.6	-	-	-
100C-CB1.4-PE35/4	8.0 X 5.3	6.5	ø 7.4	8.0 X 6.0	8.0 X 5.0	ø 5.5
150E-CB1.7-PE45/4	9.5 X 6.3	7.8	ø 8.8	12.0 X 8.0	10.0 X 6.5	ø 6.5
150E-CB1.6-PE75/4	12.0 X 8.0	9.8	ø 11.1	18.0 X 10.0	15.0 X 8.0	ø 8.0
150E-CB1.4-PE105/4	15.0 X 10.0	12.2	ø 13.8	22.0 X 12.0	20.0 X 10.0	ø 13.0
150G-CB1.7-PE185/4	17.5 X 11.5	14.2	ø 16.0	24.0 X 13.0	22.0 X 10.0	ø 14.0
201G-CB2.2-PE200/6	21.0 X 13.0	16.4	ø 18.0	27.0 X 14.0	24.0 X 10.0	-

Air flow performance



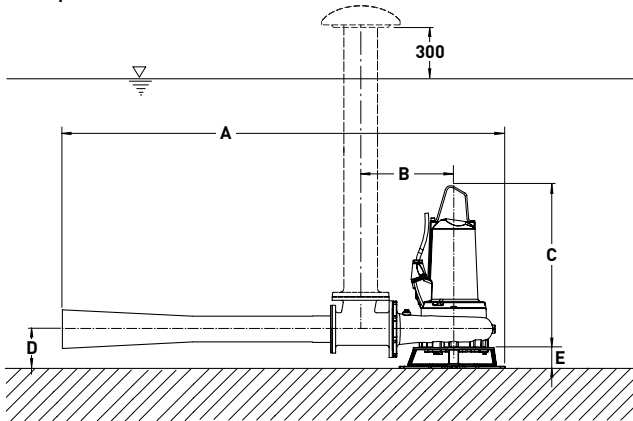
Oxygen transfer performance



Oxygen transfer data measured as per "Measurement of Oxygen Transfer in Clean Water" ASCE Standard 2-06, 2006.

Dimensions (mm)

Transportable installation



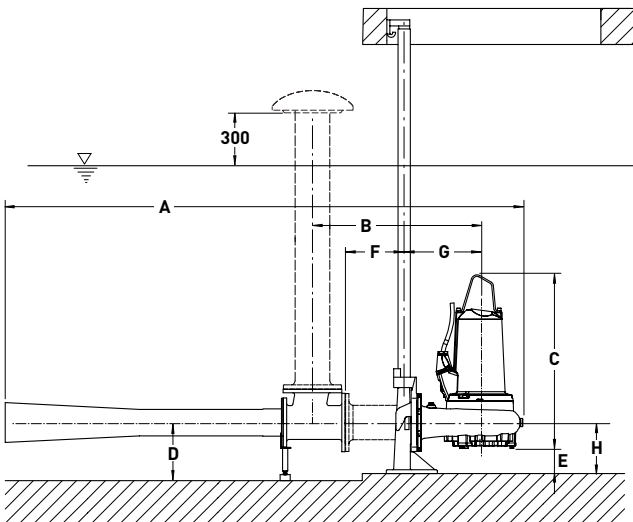
Note: in some cases the support stand may need to be weighted to the tank base to prevent lateral movement of the unit.

	100C	150E			150G	201G*
		PE45/4	PE75/4	PE105/4		
A	1596	2239	2239	2239	2319	2384*
B	390	471	471	471	496	543*
C	686	749	749	819	1261	1348
D	193	198	198	198	300	320
E	105	105	105	105	200	200

* Twin aerators as standard and only.

Required: DN 150 T-piece, 2 x DN 150 elbows and DN 200 / DN 150 adaptor flange for connecting to pump discharge (not included in dimension; supplied by the customer).

Installation with straight pedestal

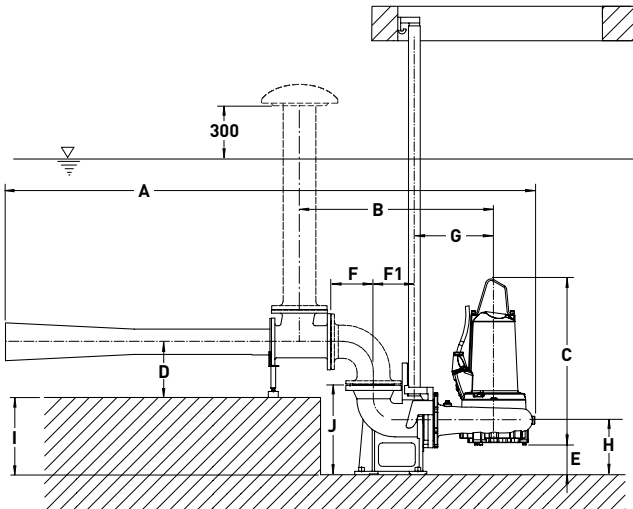


	100C	150E			150G	201G
		PE45/4	PE75/4	PE105/4		
A	1594+F	2251+F	2251+F	2251+F	2316+F	2505+F
B	442+F	531+F	531+F	531+F	556+F	995+F
C	716	783	783	853	1297	1348
D	289	286	286	286	286	286
E	82	123	123	123	114	119
F	**	**	**	**	**	**
G	318	372	372	372	397	546
H	200	250	250	250	250	240

** Variable dimension (supplied, and dimensions specified, by customer).

Required: DN 100 or DN 150 flange for XFP 100C - 150G, DN 150 T-piece, 2 x DN 150 elbows and DN 200 / DN 150 adaptor flange for XFP 201G.

Installation with 90° pedestal (duckfoot)



	100C	150E			150G	201G
		PE45/4	PE75/4	PE105/4		
A	1816+F	2497+F	2497+F	2497+F	2562+F	2788+F
B	661+F	777+F	777+F	777+F	802+F	988+F
C	716	783	783	853	1297	1348
D	289	286	286	286	286	286
E	107	153	153	153	144	158
F	**	**	**	**	**	**
F1	180	210	210	210	210	297
G	357	408	408	408	433	533
H	225	280	280	280	280	325
I	262	397	397	397	397	524
J	371	463	463	463	463	550

** Variable dimension (supplied, and dimensions specified, by customer).

Required: DN 100 or DN 150 elbow for XFP 100C - 150G, DN 150 T-piece, 2 x DN 150 elbows and DN 200 / DN 150 adaptor elbow for XFP 201G.

Note: further and more detailed dimension drawings for all installation types are available on Sulzer.com or by request.

Accessories

	Description	Size	XFP		Part no.
Fixed installation - wet well with Sulzer Automatic Coupling System	Pedestal (kit)* (cast iron EN-GJL-250) 90° cast bend (single guide rail) - DIN flange connection	DN 100	100C & 100E		62320652
		DN 150	150E & 150G		62320655
		DN 200	200G		DPT91211A
	Pedestal (components)* cast iron EN-GJL-250 straight (single guide rail) - DIN flange connection	DN 100	100C & 100E	Gasket	14020018
				Base	32560611
				Bracket	41420520
		DN 150	150E & 150G	Seal	43070518
				Guide piece	31450510
				Gasket	14020020
	DN 200	200G	Base	32560620	
Bracket			31420535		
Seal			43070519		
Pedestal bracket fasteners single guide rail version (galvanised steel)		100C & 100E 150E & 150G 200G	Seal	31450510	
			Guide piece	31450510	
			On request		
single guide rail version (stainless steel)		100C & 100E 150E & 150G 200G	Gasket	62610633	
			Base	62610635	
Pedestal base anchor bolts single and twin guide rail (galvanised steel)		100C & 100E 150E & 150G 200G	Bracket	62610883	
			Seal	62610637	
			Guide piece	62610639	
Chain kit (stainless steel) including shackle	3 m 4 m 6 m 7 m	100C - 200G	Seal	62610862	
			Bracket	62610775	
			Base	62610784	
			Guide piece	62610785	
Transportable	Ground support stand		100C	61355016	
			100E	61355018	
			150E	61355019	
			150G & 200G.	61355025	
General	Cathodic protection (zinc anodes)		100C - 200G	13905000	
			100C - 200G	16907010	
	Leakage relay type ABS CA 461	110 - 230 VAC	100C - 200G		16907010
		18 - 36 VDC, SELV			16907011
Temperature and leakage relay type ABS CA 462	110 - 230 VAC	100C - 200G		16907006	
	18 - 36 VDC, SELV			16907007	

* Guide rail not included.