

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

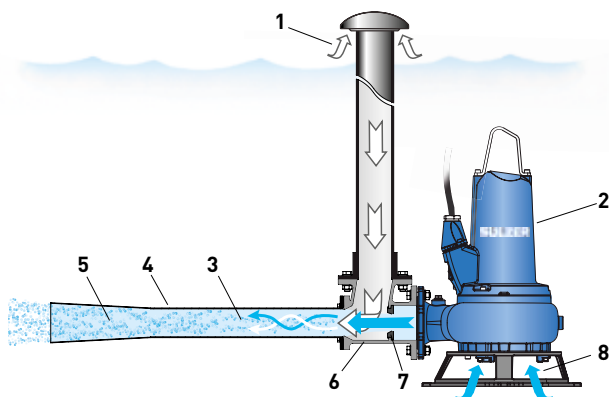
For the combined aeration and mixing of wastewater in small and medium sized tanks. Also for the cleaning of storm water tanks and for use in balancing tanks where a combination of aeration and mixing reduces septicity and minimizes odours.

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 104 °F.

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 rpm) and 6-pole (1180 rpm).

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	(Europe)	(USA)
Aerator	Diffuser pipe	Stainless steel	1.4301	ASTM / AISI 304
	Venturi chamber housing	Cast iron	EN-GJL-200	ASTM A48; Class 30B
	Motor housing			
Pump	Impeller	Cast iron	EN-GJL-250	ASTM A48; Class 35B
	Volute			
	Bottom plate			
	Motor shaft	Stainless steel	1.4021	ASTM / AISI 420
	Lifting hoop	Stainless steel	1.4401	ASTM / AISI 316
Fasteners				

Technical data

XFP pump	Pump discharge (ins)	Aerator inlet (ins)	Nozzle (o ins)	Water flow (gpm)	Motor power *		Rated current (A)	Cable size	Weight ** (pump) lbs
					P ₁ (kW)	P ₂ (hp)			
100C-CB1.2-PE20/6	4"	4"	2.2"	220	2.4	2.7	4.2	SOOW 14/7	240
100C-CB1.1-PE20/6	4"	4"	2.2"	308	2.4	2.7	4.2	SOOW 14/7	240
100C-CB1.4-PE35/4	4"	4"	2.2"	440	3.9	4.7	6.2	SOOW 14/7	240
150E-CB1.7-PE45/4	6"	6"	3.2"	616	5.0	6.0	8.2	SOOW 14/7	369
150E-CB1.6-PE75/4	6"	6"	3.2"	837	8.2	10.1	13.8	SOOW 12/7	410
150E-CB1.4-PE105/4	6"	6"	3.2"	1057	11.4	14.1	17.7	SOOW 10/7	435
150G-CB1.7-PE185/4	6"	6"	3.2"	1387	19.8	24.8	32.3	AWM 8/4+16/3	981
201G-CB2.2-PE200/6 ⁽¹⁾	8"	6"	3.2"	2201	21.5	26.8	32.7	AWM 8/4+16/3	1047

⁽¹⁾ XFP 201G requires twin aerators. 6" T-piece, 2 x 6" elbows and 8" / 6" adaptor flange required for connection to pump discharge.

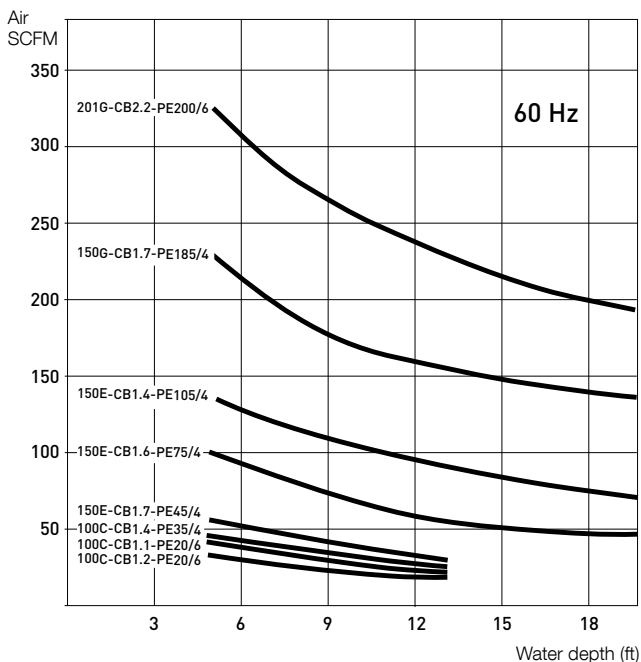
* P₁ = power at mains. P₂ = power at motor shaft.

** Aerator weight: 4" = 44 lbs, 6" = 88 lbs (does not include air inlet pipe or fittings). Portable stand: 100C = 21 lbs, 100 & 150E = 23 lbs, 150 & 201G = 39 lbs.

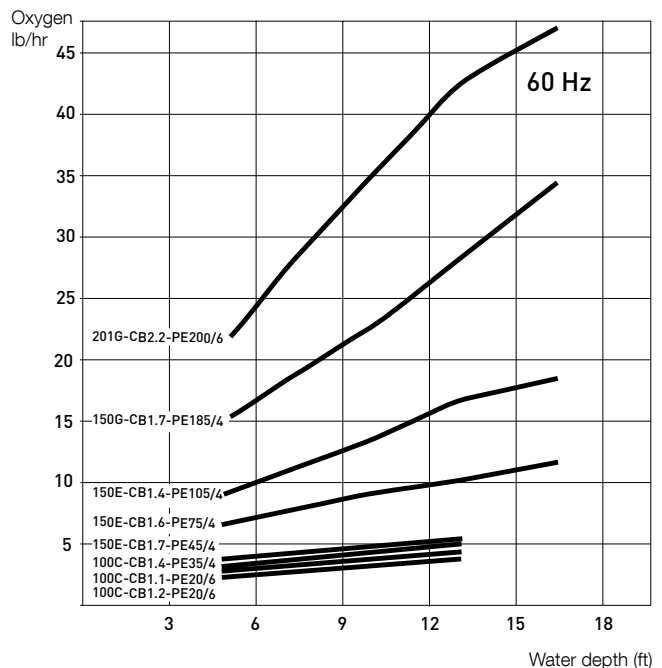
Aerator selection / Tank dimensions (ft)

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	19.7 X 13.1	16.1	o 18.0	-	-	-
100C-CB1.1-PE20/6	23.6 X 15.7	19.4	o 21.7	-	-	-
100C-CB1.4-PE35/4	26.2 X 17.4	21.3	o 24.3	26.3 X 19.7	26.3 X 16.4	o 18.1
150E-CB1.7-PE45/4	31.2 X 20.7	25.6	o 28.9	32.8 X 26.3	32.8 X 21.3	o 21.3
150E-CB1.6-PE75/4	39.4 X 26.2	32.2	o 36.4	59.1 X 32.8	49.2 X 26.3	o 26.3
150E-CB1.4-PE105/4	49.2 X 32.8	40.0	o 45.3	72.2 X 39.4	65.6 X 32.8	o 42.7
150G-CB1.7-PE185/4	57.4 X 37.7	46.6	o 52.5	78.7 X 42.7	72.2 X 32.8	o 45.9
201G-CB2.2-PE200/6	68.9 X 42.7	53.8	o 59.1	88.6 X 45.9	78.7 X 32.8	-

Air flow performance



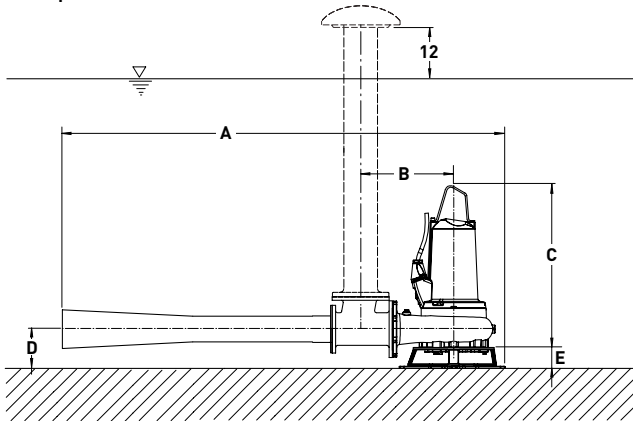
Oxygen transfer performance



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

Dimensions (ins)

Transportable installation



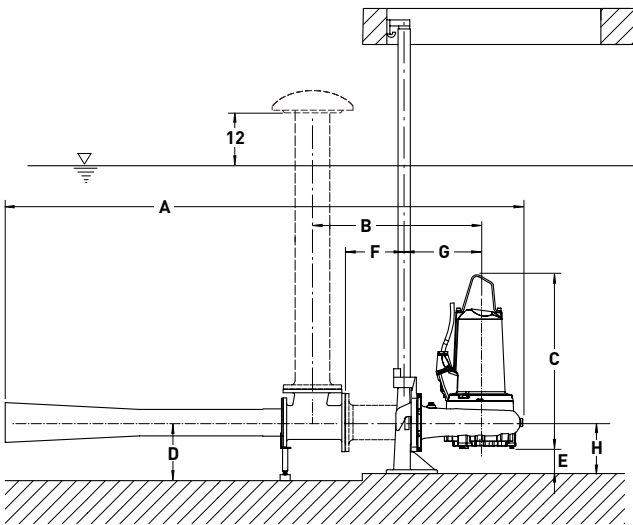
Note: in some cases the support stand may need to be weighted to the tank base to prevent lateral movement of the unit.

	100C	150E			150G	201G*
		PE45/4	PE75/4	PE105/4		
A	62.8	88.2	88.2	88.2	91.3	93.9*
B	15.4	18.5	18.5	18.5	19.5	21.4*
C	27.0	29.5	29.5	32.2	49.7	53.1
D	7.6	7.8	7.8	7.8	11.8	12.6
E	4.1	4.1	4.1	4.1	7.9	7.9

* Twin aerators as standard and only.

Required: 6" T-piece, 2 x 6" elbows and DN 8" / 6" adaptor flange for connecting to pump discharge (not included in dimension; supplied by the customer).

Installation with straight pedestal

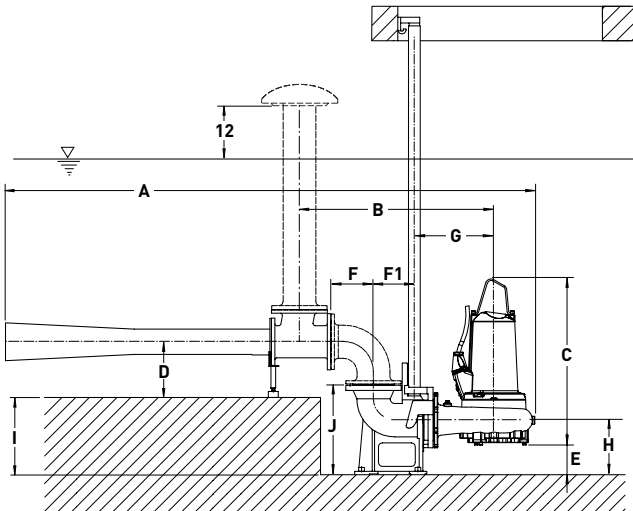


	100C	150E			150G	201G
		PE45/4	PE75/4	PE105/4		
A	62.8+F	88.6+F	88.6+F	88.6+F	91.2+F	98.6+F
B	17.4+F	20.9+F	20.9+F	20.9+F	21.9+F	39.2+F
C	28.2	30.8	30.8	33.6	51.1	53.1
D	11.3	11.3	11.3	11.3	11.3	11.3
E	3.2	3.6	4.8	4.8	4.5	4.7
F	**	**	**	**	**	**
G	12.5	14.7	14.7	14.7	15.6	21.5
H	7.9	9.8	9.8	9.8	9.8	9.5

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

Required: 4" or 6" flange for XFP 100C - 150G,
6" T-piece, 2 x 6" elbows and 8" / 6" adaptor flange for XFP 201G.

Installation with 90° pedestal (duckfoot)



	100C	150E			150G	201G
		PE45/4	PE75/4	PE105/4		
A	71.5+F	98.3+F	98.3+F	98.3+F	100.9+F	109.8+F
B	26.0+F	30.6+F	30.6+F	30.6+F	31.6+F	38.9+F
C	28.2	30.8	30.8	33.6	51.1	53.1
D	11.4	11.3	11.3	11.3	11.3	11.3
E	4.2	6.0	6.0	6.0	5.7	6.2
F	**	**	**	**	**	**
F1	7.1	8.3	8.3	8.3	8.3	11.7
G	14.1	16.1	16.1	16.1	17.1	21.0
H	8.9	11.0	11.0	11.0	11.0	12.8
I	10.3	15.6	15.6	15.6	15.6	20.6
J	14.6	18.2	18.2	18.2	18.2	21.7

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

Required: 4" or 6" elbow for XFP 100C - 150G,
6" T-piece, 2 x 6" elbows and 8" / 6" adaptor flange for XFP 201G.

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

Accessories

	Description	Size	XFP		Part no.	
Fixed installation - wet well with Sulzer Automatic Coupling System	Pedestal (kit)* ASTM A48: Class 35B 90° cast bend (single guide rail) - DIN flange connection	4"	100C & 100E		62320652	
		6"	150E & 150G		62320655	
		8"	200G		DPT91211A	
	Pedestal (components)* cast iron ASTM A48: Class 35B straight (single guide rail) - DIN flange connection	4"	100C & 100E	Gasket	14020018	
				Base	32560611	
				Bracket	41420520	
		6"	150E & 150G	Seal	43070518	
				Guide piece	31450510	
				Gasket	14020020	
	8"	200G	Base	32560620		
Bracket			31420535			
Seal			43070519			
			Guide piece	31450510		
				On request		
Pedestal bracket fasteners single guide rail version (galvanised steel)			100C & 100E	62610633		
			150E & 150G	62610635		
			200G	62610883		
single guide rail version (stainless steel)			100C & 100E	62610637		
			150E & 150G	62610639		
			200G	62610862		
Pedestal base anchor bolts single and twin guide rail (galvanised steel)			100C & 100E	62610775		
			150E & 150G	62610784		
			200G	62610785		
Chain kit (stainless steel) including shackle		9.8 ft	100C - 200G		310101236013	
		13.1 ft			310101236014	
		19.7 ft			310101236016	
		22.9 ft			310101236017	
Transportable	Ground support stand		100C		61355016	
			100E		61355018	
			150E		61355019	
			150G & 200G.		61355025	
General	Cathodic protection (zinc anodes)		100C - 200G		13905000	
			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.