

HBA - Highspeed Bottom Aerator

Radial Submerged Aerators from 0.75 up to 80 kW



Product description

- Direct drive submerged high efficiency aerator, available with or without channel extensions
- Self-aspirating or pressured by an additional blower
- High oxygen transfer rates and optimal mixing capacity in deep basins

Applications

- Homogenisation and equalization tanks
- SBR plants
- Activated sludge plants
- Aerobic digesters
- Flotation of greases, oils and solids

Advantages

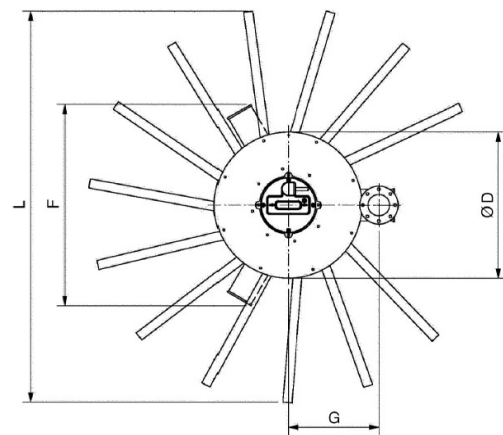
- Extended unit lifetime and low maintenance (no gearbox)
- Motor (50 or 60 Hz) in IP68 with oil chamber leakage control and thermal protection
- High oxygen transfer in waste water due to high α -factor
- No dead zones due to high mixing capacity
- Low aerosol emissions
- Simple and quick installation even in filled basins
- No need of anchoring or support structures
- Low investment cost for the complete installation

Materials

- Motor body: cast iron G25
- Motor shaft: AISI 420
- Impeller: AISI 316/304
- Diffuser, channels (only type -C), intake chamber, screws: AISI304

Working principle

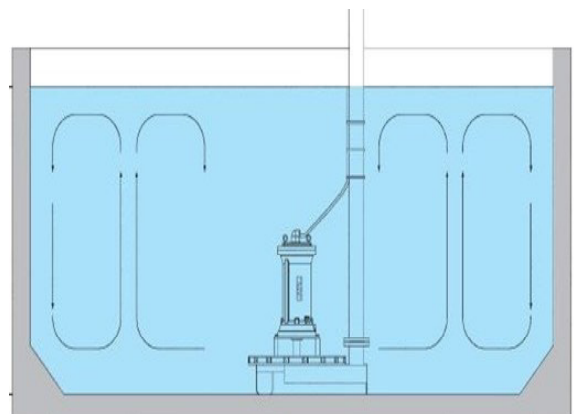
The impeller rotating inside the mixing chamber aspirates water through the opening between the motor and the stainless steel body of the unit. By accelerating the water radially 360° through the outlet channels a vacuum is created inside the mixing chamber. This vacuum induces a flow of air into the chamber from above the water level through the aspiration pipe. This aspirated air is mixed with the water to very fine bubbles inside the mixing chamber and then ejected through the outlet channels. The strong density induced flow creates a perfect mixing pattern and oxygen distribution in the tank. Extension channels (option type -C) will optimize oxygen transfer and oxygen distribution.



Type HBA-C = with extension channels

Accessories

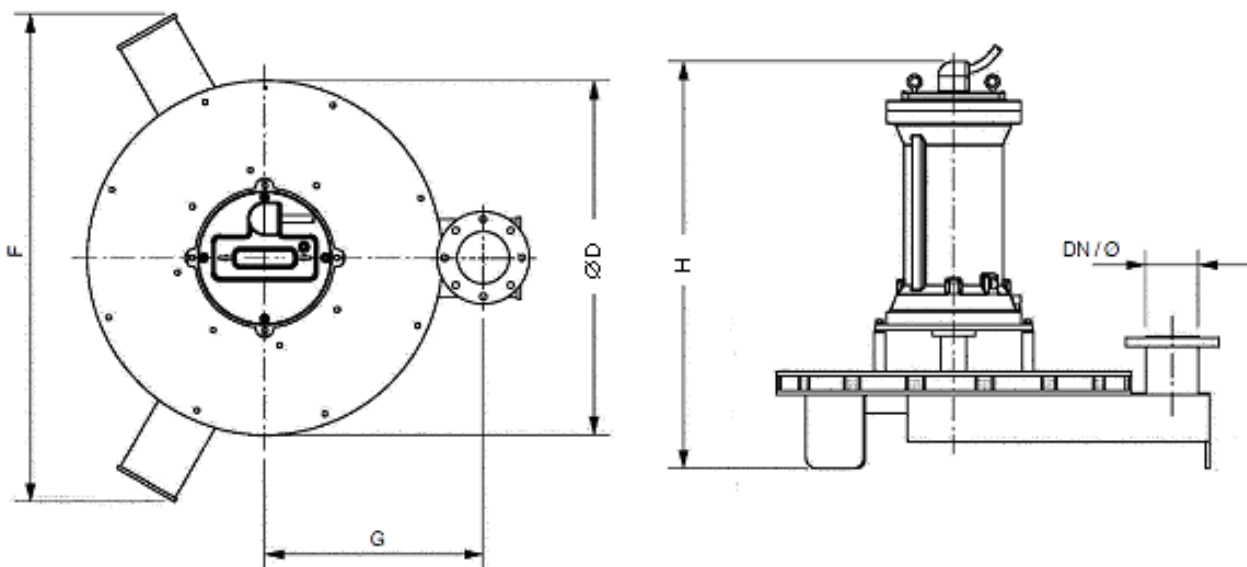
- Aspiration pipe
- Protective grid for aspiration pipe
- Lifting hook for aspiration pipe
- Silencer
- Lifting system



Dimensions¹

Aerator Type ²	ø D [mm]	H [mm]	F [mm]	G [mm]	L* [mm]	ø DN [mm]	Weight [kg]
HBA-008-2.5	390	547	390	168	-	32	54
HBA-015-5.0	390	547	390	168	-	32	55
HBA-015-2.5 (-C)	390	733	390	168	1404	32	68 (78)
HBA-030-5.0 (-C)	390	733	390	168	1404	32	69 (79)
HBA-040-3.0 (-C)	490	851	828	400	1510	80	120 (139)
HBA-055-6.0 (-C)	490	943	828	400	1510	80	172 (191)
HBA-075-3.0 (-C)	645	1045	965	402	1667	80	201 (220)
HBA-090-6.0 (-C)	645	1045	965	402	1667	80	207 (226)
HBA-110-3.5 (-C)	645	1063	965	402	1663	100	228 (246)
HBA-150-7.0 (-C)	645	1364	965	402	1663	100	346 (367)
HBA-180-3.5 (-C)	850	1366	1217	525	2148	100	384 (416)
HBA-220-7.0 (-C)	850	1366	1217	525	2148	100	394 (426)
HBA-300-3.5 (-C)	960	1378	1321	590	2590	125	463 (532)
HBA-370-7.0 (-C)	960	1621	1321	590	2590	125	523 (592)
HBA-370-3.5 (-C)	960	1621	1376	595	2590	150	550 (631)
HBA-440-7.0 (-C)	960	1621	1376	595	2590	150	660 (741)
HBA-440-3.5 (-C)	995	1643	1376	595	2617	150	663 (756)
HBA-550-7.0 (-C)	995	1647	1376	595	2617	150	833 (926)
HBA-800-8.0 (-C)	995	1687	1376	595	2617	150	913 (1006)

* only for type HBA-C

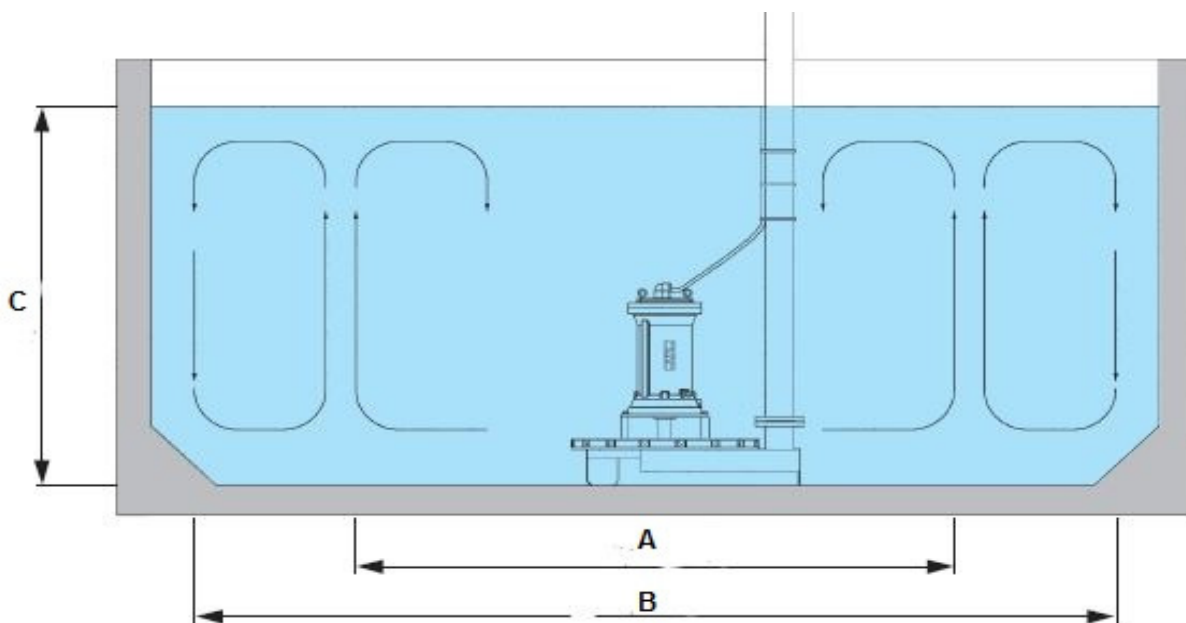


Type HBA = without extension channels

Electrical Data and Working Area¹

Aerator Type ²	Motor power [kW]	Rated current ³ [A]	Speed ³ [min ⁻¹]	A [m]	B [m]	C** [m]
HBA-008-2.5	0,75	3,9	1460	1,8	4,0	2,50
HBA-015-5.0	1,5	4,2	1420	1,8	4,0	5,00
HBA-015-2.5 (-C)	1,5	5,2	1440	2,30	4,20	2,50
HBA-030-5.0 (-C)	3,0	7,2	1420	(2,50)	(4,60)	5,00
HBA-040-3.0 (-C)	4,0	9,5	1420	3,00	6,90	3,00
HBA-055-6.0 (-C)	5,5	12,5	1450	(4,00)	(8,50)	6,00
HBA-075-3.0 (-C)	7,5	17,5	1450	4,00	8,50	3,00
HBA-090-6.0 (-C)	9,0	20,5	1440	(4,50)	(9,50)	6,00
HBA-110-3.5 (-C)	11,0	25,4	1460	5,50	11,00	3,50
HBA-150-7.0 (-C)	15,0	33,1	1455	(7,00)	(12,00)	7,00
HBA-180-3.5 (-C)	18,0	41,0	1455	6,00	12,00	3,50
HBA-220-7.0 (-C)	22,0	46,8	1460	(8,00)	(13,00)	7,00
HBA-300-3.5 (-C)	30,0	58,0	1440	6,80	13,30	3,50
HBA-370-7.0 (-C)	37,0	69,0	1465	(8,50)	(14,00)	7,00
HBA-370-3.5 (-C)	37,0	69,0	1465	7,30	14,80	3,50
HBA-440-7.0 (-C)	44,0	78,5	1460	(9,00)	(15,00)	7,00
HBA-440-3.5 (-C)	44,0	78,5	1460	7,80	16,00	3,50
HBA-550-7.0 (-C)	55,0	100,0	1460	(9,50)	(17,00)	7,00
HBA-800-8.0 (-C)	80,0	135,0	1455	9,00 (10,00)	17,00 (18,50)	8,00

** Higher water level on request



A = primary high turbulence zone B = secondary turbulence zone C** = maximum water level

Process Data⁴

Aerator Type	SOTR _{max} ⁴ in clean water in kg O ₂ /h by an immersion of								
	1,00 m	2,00 m	2,50 m	3,00 m	3,50 m	5,00 m	6,00 m	7,00 m	8,00 m
HBA-008-2.5	0,9	1,1	1,2						
HBA-015-5.0			1,2	1,3	1,4	1,6			
HBA-015-2.5	1,5	1,8	2,2						
HBA-030-5.0			2,2	2,6	2,7	3,2			
HBA-040-3.0		4,2	4,5	4,9					
HBA-055-6.0				4,9	5,1	6,0	6,5		
HBA-075-3.0		8,0	8,5	9,0					
HBA-090-6.0				9,0	9,5	10,4	10,9		
HBA-110-3.5		11,0	11,5	12,0	13,0				
HBA-150-7.0					13,0	15,0	16,0	17,0	
HBA-180-3.5		19,5	20,5	21,0	22,0				
HBA-220-7.0					22,0	24,0	24,5	25,0	
HBA-300-3.5		30,0	31,0	32,0	34,5				
HBA-370-7.0					34,5	38,0	39,5	41,0	
HBA-370-3.5		39,0	40,0	41,0	43,0				
HBA-440-7.0					43,0	47,0	49,0	51,0	
HBA-440-3.5		51,0	52,0	53,0	55,0				
HBA-550-7.0					55,0	59,0	61,0	63,0	
HBA-800-8.0		78,0	80,0	81,0	82,0	87,0	88,0	90,0	91,0

Aerator Type	SOTR _{max} ⁴ in clean water in kg O ₂ /h by an immersion of								
	1,00 m	2,00 m	2,50 m	3,00 m	3,50 m	5,00 m	6,00 m	7,00 m	8,00 m
HBA-015-2.5-C	1,7	2,1	2,4						
HBA-030-5.0-C			2,4	2,8	3,0	3,4			
HBA-040-3.0-C		4,5	4,8	5,2					
HBA-055-6.0-C				5,2	5,6	6,5	7,0		
HBA-075-3.0-C		8,7	9,1	9,5					
HBA-090-6.0-C				9,5	10,0	11,0	11,4		
HBA-110-3.5-C		14,0	14,5	15,0	15,8				
HBA-150-7.0-C					15,8	17,1	17,7	18,0	
HBA-180-3.5-C		21,3	22,5	23,3	24,6				
HBA-220-7.0-C					24,6	26,7	27,3	27,5	
HBA-300-3.5-C		34,0	36,0	37,0	39,0				
HBA-370-7.0-C					39,0	43,0	44,0	46,0	
HBA-370-3.5-C		40,0	42,0	44,0	47,0				
HBA-440-7.0-C					47,0	52,0	53,0	55,0	
HBA-440-3.5-C		53,0	55,0	56,0	59,0				
HBA-550-7.0-C					59,0	64,0	67,0	69,0	
HBA-800-8.0-C		82,0	84,0	87,0	90,0	96,0	100,0	103,0	105,0

¹ All values are indicative. ATB WATER GmbH reserves the right to adjust these values at any time without prior notice.

² -C = with extension channels

³ Values valid for power supply 400 V / 50 Hz. The working range is from 380 to 415 V, amps value and rotation speed may differ.

⁴ Approximate values at optimal conditions (water temperature 20°C, atmospheric pressure 1013 hPa, air temperature 10°C). To ensure correct dimensioning, specific installed power must be between 15÷55 W/m³.