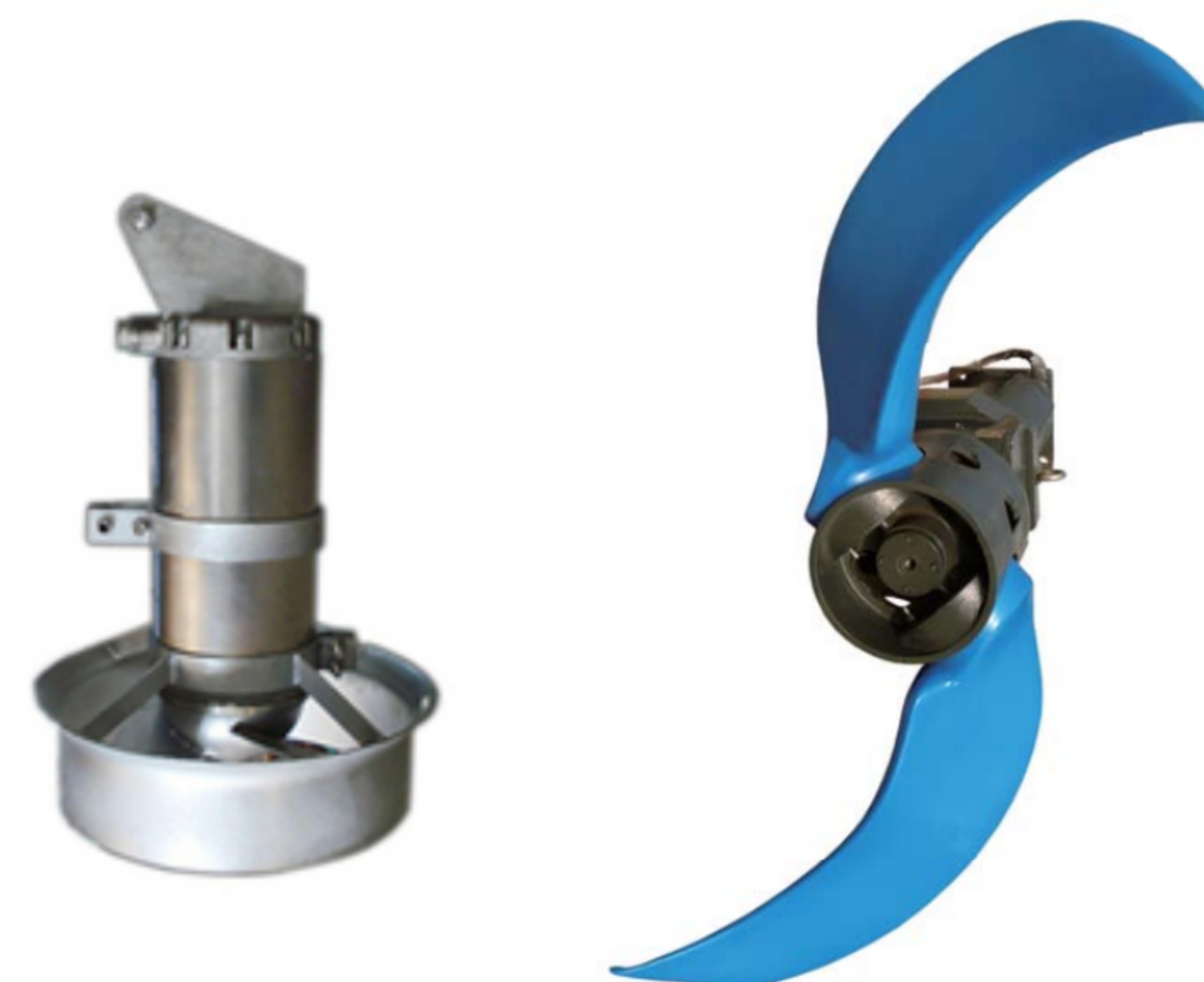


submersible mixer



上海祁立环保设备有限公司
Shanghai QILEE Environmental Protection Equipment Co.,Ltd

Company Profile

Shanghai QILEE is a company integrates the research and development, production and marketing of environmental protection equipment. It adheres to the corporate philosophy of “Quality first, Sustainable operation” since its foundation in 2006. It implements development strategy of “professionalization, scale and internationalization”.

Shanghai QILEE keeps technical innovations constantly and provides superior products to meet the requirements of customers and market.

Shanghai QILEE brings in advanced foreign technology and originally designs and manufactures sludge dehydrators, automatic dissolvers, oil skimmers and agitators.

With our precious experience and professional knowledge, we will provide our best pre-sale and after-sales service for you. Work together with us, you will find enjoyable and successful business is so easy.

submersible mixer

Features

- The two rows of independent mechanical sealing ensure the long-term and reliable operation of the submersible motor.
- The international well-known high-quality bearings have longer service life, which are maintenance free.
- The unique sealing design for the cables removes the hidden danger of water leakage for the cables.
- The shaft of the motor employs the stainless steel, and the rotors are inspected with the use of dynamic balancing, leading to smooth rotation.
- The in-built leakage sensor and the device for the overtemperature protection for the windings of the stator (No leakage sensor for PJ 0.37/6 or PJ 0.55/4).
- The mixer agitators have the stainless steel pressing impeller, which are of the sweptback shape through the optimized design, resulted in high efficiency and self-cleaning function.
- The vanes of the low-speed flow propeller are made of enhanced PU, which are sweptback shape, have the self-cleaning function, the smooth and streamlined propeller surface distributes the propelling power equally.
- On the low-speed flow propeller, all the tightening pieces which will contact media employ the stainless-steel material; The decelerator employs integrated reducer with high safety coefficient, whose standard configuration is CYCLO, you can also choose helical gear speed reducer.

Purpose

The submersible mixers in our company include mixing agitator and low-speed flow propeller, mainly used for: The purposes of mixing, agitating and making ring flows in the process of municipal and industrial sewage treatment: activated sludge tank, bioreactor tank, mixing tank, sludge silos, equalizing reservoir, sewage tank and etc.; The maintenance equipment for the landscape water environment, improving the quality of the water body; Creating water flow, effectively preventing the sedimentation of the suspended substances.



Mixing agitator (With dome)



Mixing agitator



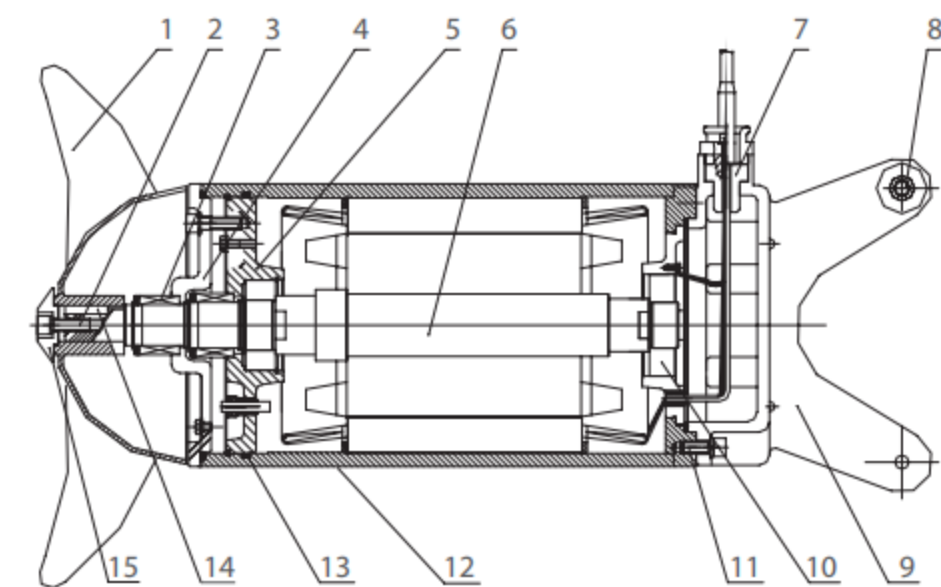
Low-speed flow propeller

Conditions of usage

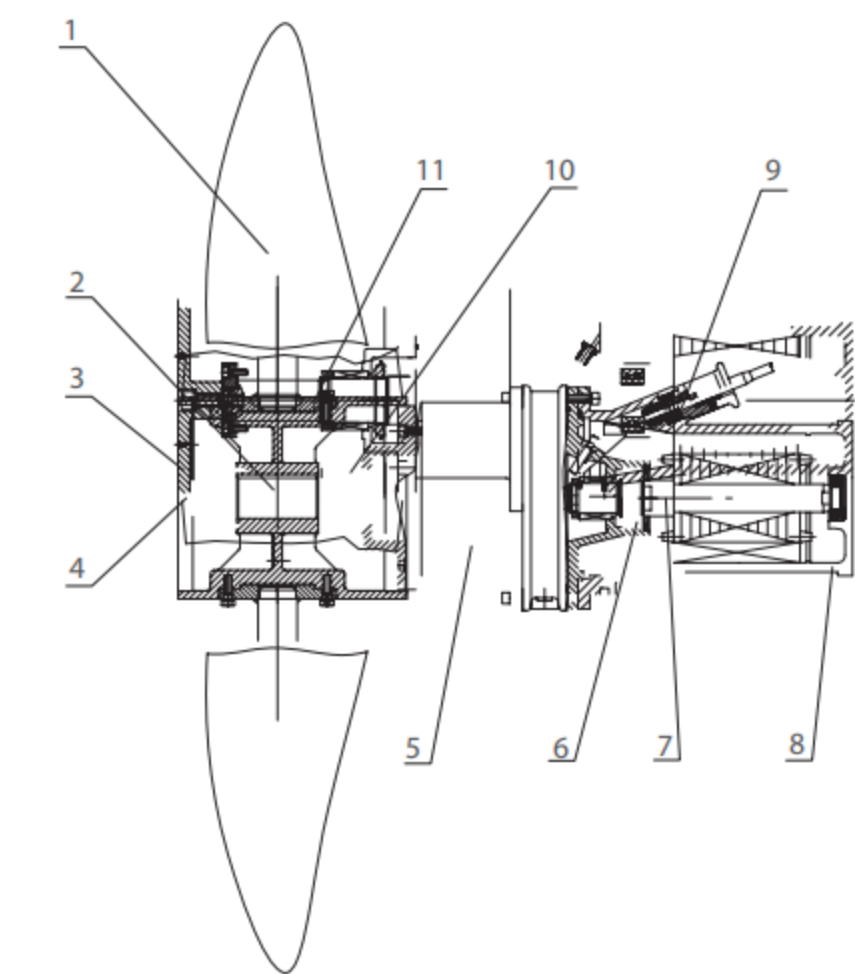
- The highest temperature of the media shall not exceed 40℃
- The pH value of the media: 5~9
- The density of the media shall not exceed 1150kg/m³
- The depth of submersion shall not exceed 20m
- The electric power supply: 380V, 50Hz
- The motor: F class insulation and in accordance with IP68, continuous operating in 24hr
- The submersible mixer must operate in the complete submersion into water

Construction

The structure will be different according to the power.

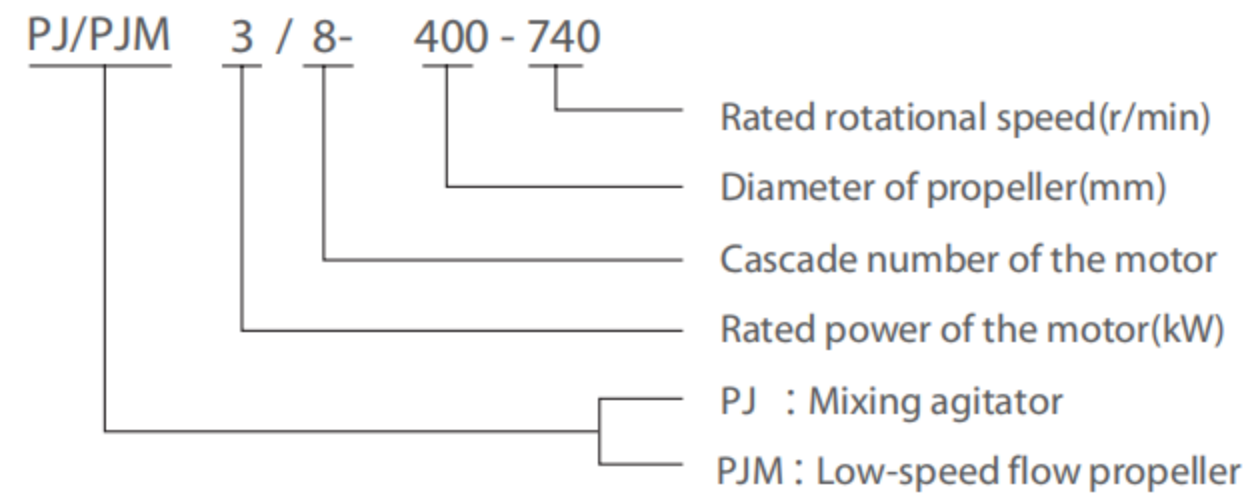


	Name	材质	Material
		GB	JIS
1	Propeller	0Cr19Ni10	SUS304
2	Lock nut	0Cr19Ni10	SUS304
3	Mechanical seal	SiC-SiC	SiC-SiC
4	Mechanical seal stand	0Cr19Ni10	SUS304
5	Front bearing support	HT200	FC200
6	Main shaft	2Cr13	SUS420J1
7	Watertight head	硫化橡胶	VR
8	Roller	0Cr19Ni10	SUS304
9	Frame	0Cr19Ni10	SUS304
10	Bearing	-	-
11	Inner hexagonal screw	0Cr19Ni10	SUS304
12	Sheath	0Cr19Ni10	SUS304
13	O-type sealant ring	丁晴-70/NBR-70	NBR-70
14	General flat key	45	S45C
15	Wheel clamp ring	0Cr19Ni10	SUS304



		Material	
		GB	JIS
1	Propeller	GRP	GRP
2	Output shaft	2Cr13	SUS420J1
3	End cap	HT200	FC200
4	Bolt	0Cr19Ni10	SUS304
5	Deceleration cabinet	HT200	FC200
6	Bearing	-	-
7	Stator shaft	2Cr13	SUS420J1
8	Sheath	HT200	FC200
9	Splicing kits for power cable	-	-
10	Mechanical sealing	SiC-SiC	SiC-SiC
11	Wheel boss	HT200	FC200

Type description

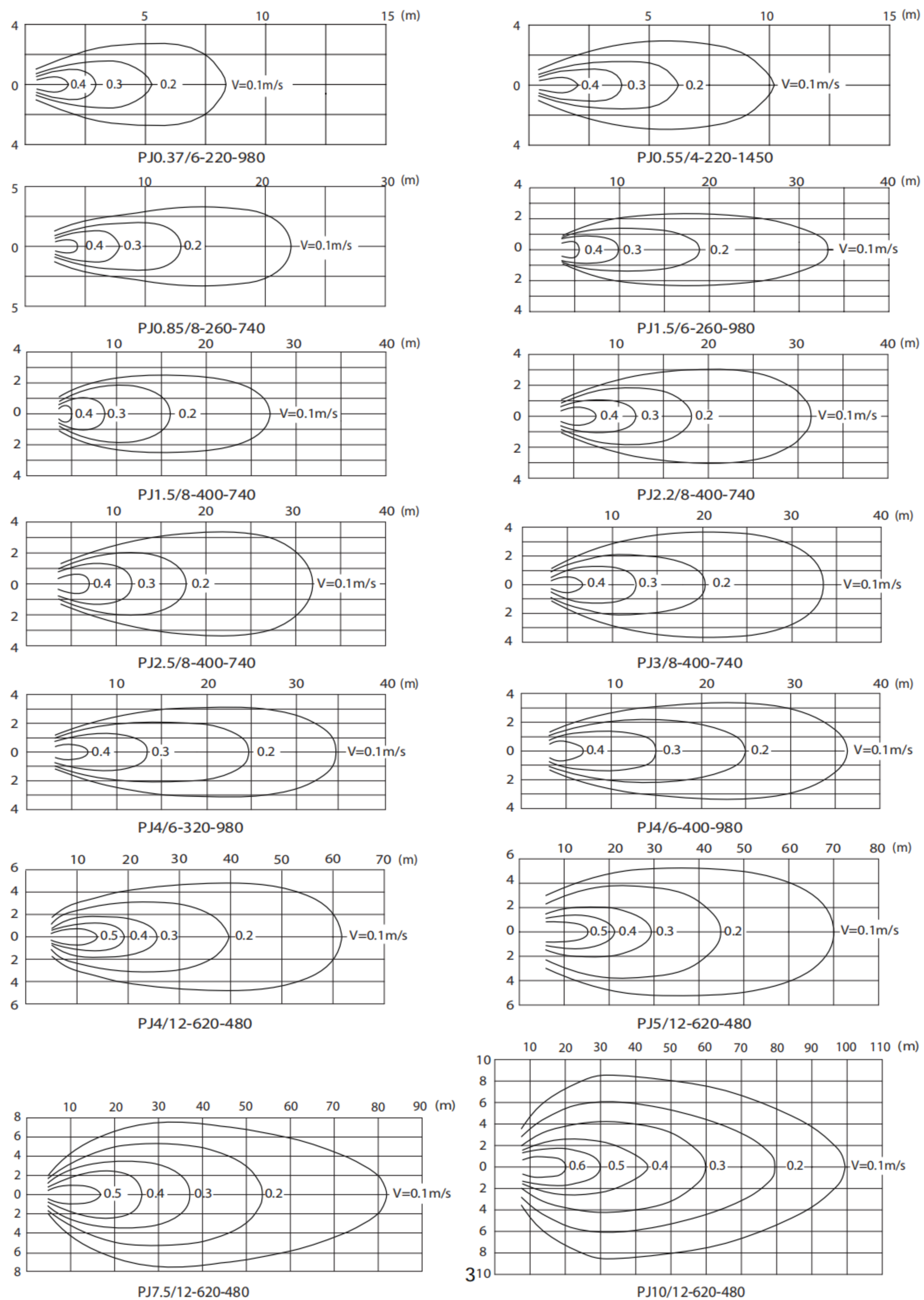


Performance parameters

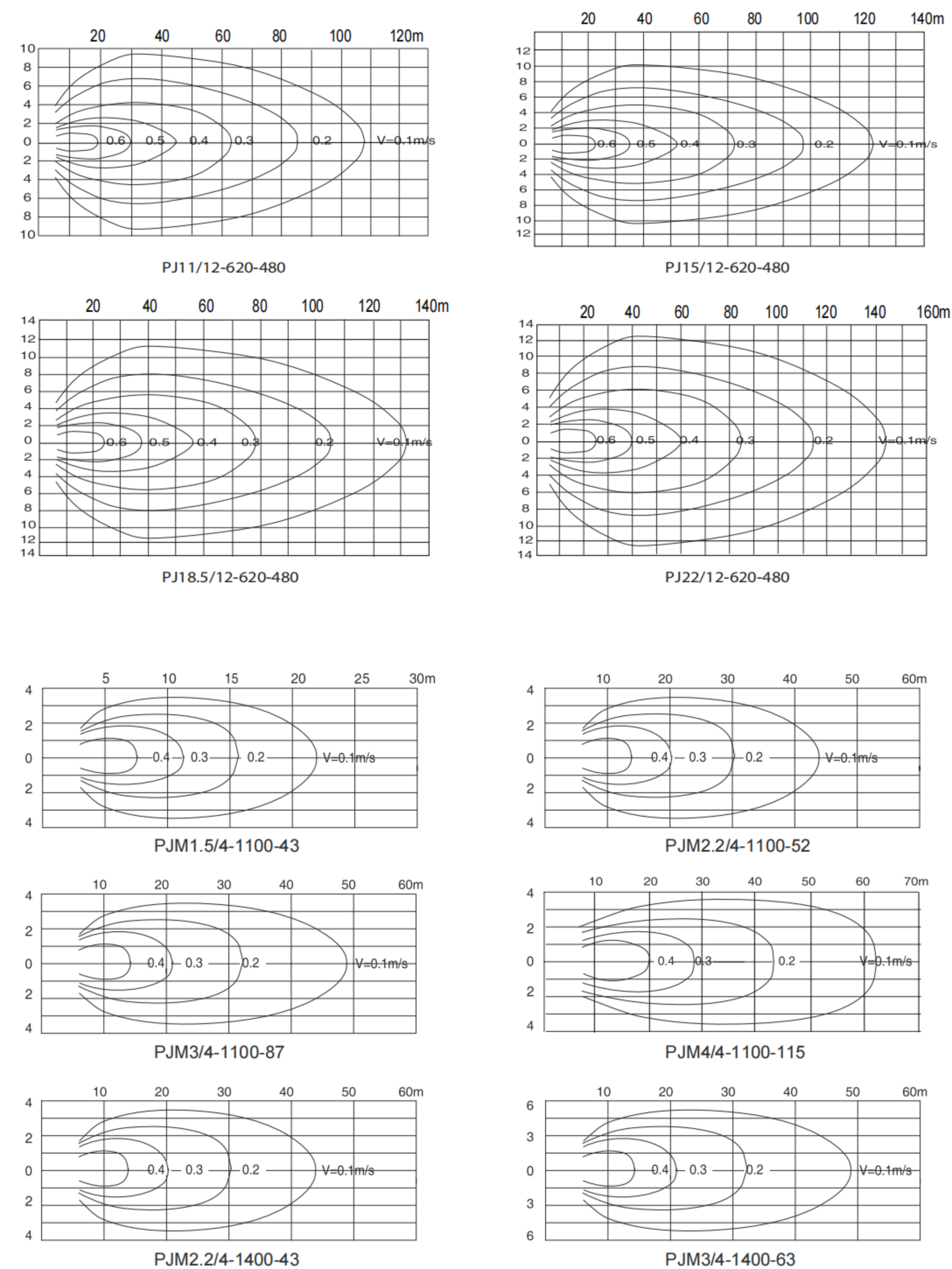
Pump model		(kW) Motor power	(A) Rated current	(mm) rpm of propeller	(r/min) Diameter of propeller	(N) Thrust	(kg) Weight
	PJ0.37/6-220-980	0.37	1.5	220	980	138	45/50
	PJ0.55/4-220-1450	0.55	1.6	220	1450	145	45/50
	PJ0.85/8-260-740	0.85	3.2	260	740	180	55
	PJ1.5/6-260-980	1.5	4.0	260	980	260	55
	PJ2.2/8-400-740	2.2	5.9	320	740	780	110
	PJ4/6-320-980	4	10.3	320	980	690	115
	PJ1.5/8-400-740	1.5	5.2	400	740	600	100
	PJ2.5/8-400-740	2.5	7.1	400	740	800	110
	PJ3/8-400-740	3	8.6	400	740	900	115
	PJ4/6-400-980	4	10.3	400	980	1100	115
	PJ4/12-620-480	4	14	620	480	1200	184
	PJ5/12-620-480	5	18.2	620	480	1500	184
	PJ7.5/12-620-480	7.5	28	620	480	1900	229
	PJ10/12-620-480	10	32	620	480	2200	229
	PJ11/12-620-480	11	34	620	480	2450	229
	PJ15/12-620-480	15	42	620	480	3300	250
	PJ18.5/12-620-480	18.5	55	620	480	3500	270
	PJ22/12-620-480	22	65	620	480	3900	290
Pump model		(kW) Motor power	(A) Rated current	(mm) rpm of propeller	(r/min) Diameter of propeller	(N) Thrust	(kg) Weight
two vanes	PJM1.5/4-1100-43	1.5	3.7	1100	43	865	135
	PJM2.2/4-1100-52	2.2	4.9	1100	52	1100	135
	PJM3/4-1100-87	3	6.7	1100	87	1700	140
	PJM4/4-1100-115	4	8.7	1100	115	1860	140
	PJM2.2/4-1400-43	2.2	4.9	1400	43	1420	140
	PJM3/4-1400-63	3	6.7	1400	63	1870	140
	PJM4/4-1400-87	4	8.7	1400	87	2300	140
	PJM2.2/4-1600-38	2.2	4.9	1400	38	1600	145
	PJM3/4-1600-43	3	6.7	1600	43	1850	145
	PJM4/4-1600-52	4	8.7	1600	52	2520	145
	PJM2.2/4-1800-38	2.2	4.9	1800	38	1750	158
	PJM3/4-1800-43	3	6.7	1800	43	1960	158
	PJM4/4-1800-52	4	8.7	1800	52	2750	162
	PJM5/4-1800-63	5	11.3	1800	63	3120	162
	PJM2.2/4-2200-34	2.2	4.9	2200	34	1810	165
	PJM3/4-2200-38	3	6.7	2200	38	2140	165
	PJM4/4-2200-43	4	8.7	2200	43	2780	170
	PJM5/4-2200-52	5	11.3	2200	52	3600	170
	PJM2.2/4-2500-34	2.2	3.7	2500	34	1750	175
	PJM3/4-2500-38	3	6.7	2500	38	2090	175
three vanes	PJM4/4-2500-43	4	8.7	2500	43	3200	205
	PJM5/4-2500-45	5	11.3	2500	45	1750	205
	PJM4/4-1600/3-43	4	8.7	1600	43	3110	160
	PJM5/4-1600/3-52	5	11.3	1600	52	3400	160
	PJM4/4-1800/3-43	4	8.7	1800	43	3110	180
	PJM5/4-1800/3-52	5	11.3	1800	52	3500	180
	PJM7.5/4-1800/3-57	7.5	15.5	1800	57	4010	210
	PJM4/4-2500/3-38	4	8.7	2500	38	3290	230
	PJM5/4-2500/3-43	5	11.3	2500	43	3940	235
	PJM7.5/4-2500/3-52	7.5	15.5	2500	52	4280	245

In the above table, the value listed in the column of "weight" respectively contains the weight of without or with the dome.

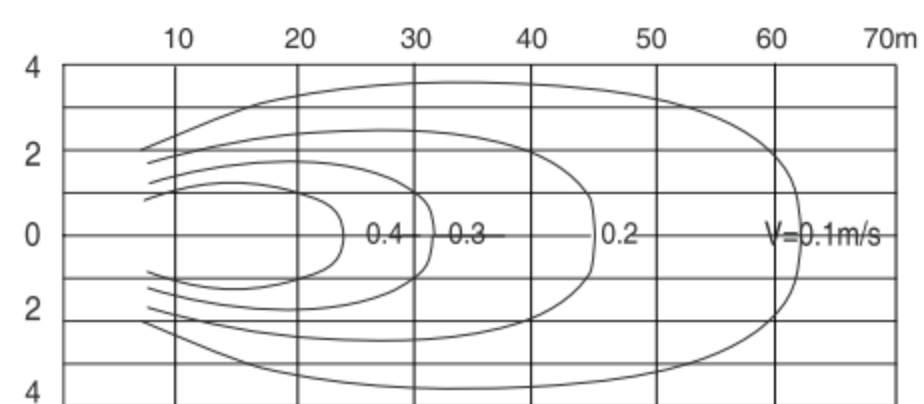
Diagrams of the flow field



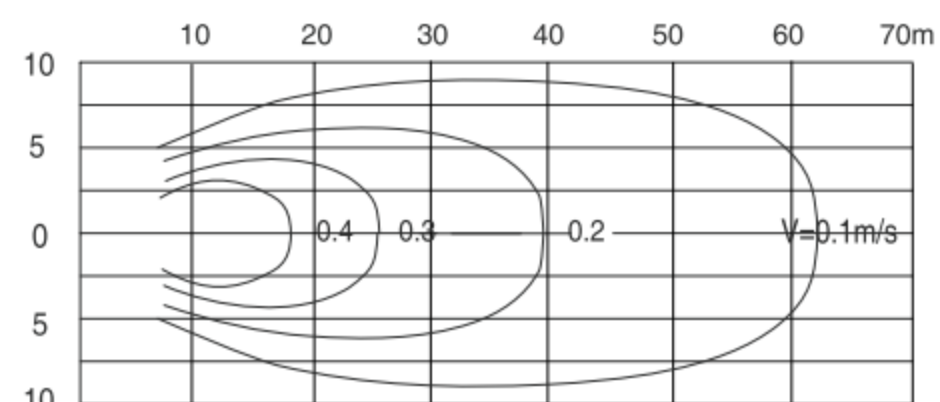
Diagrams of the flow field



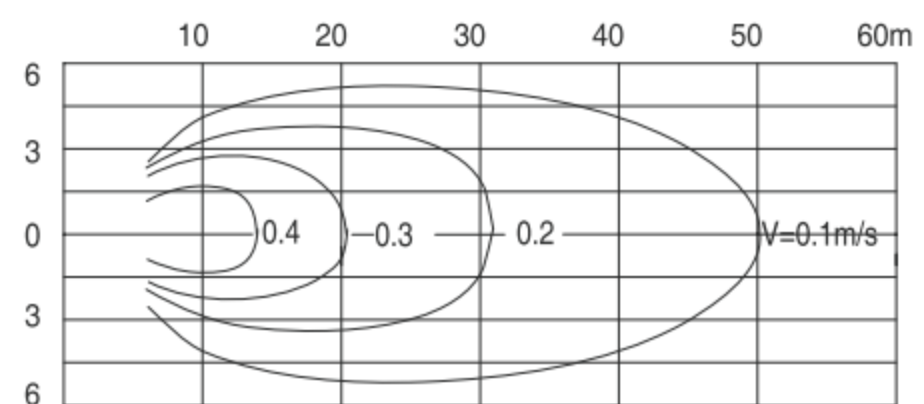
Diagrams of the flow field



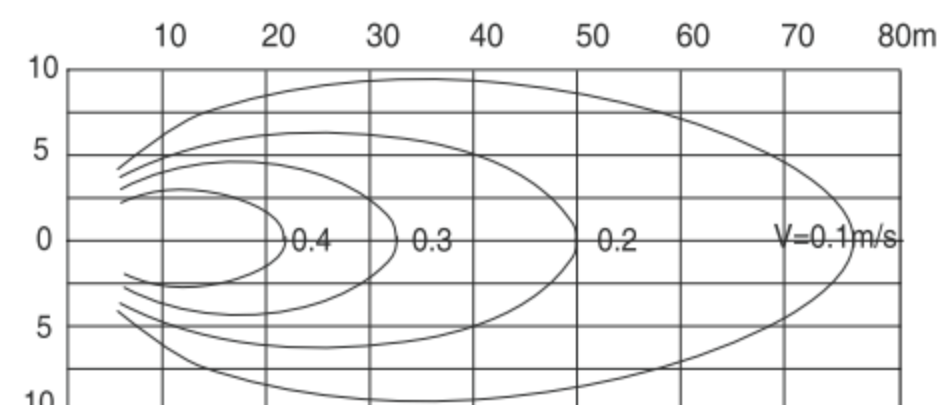
PJM4/4-1400-87



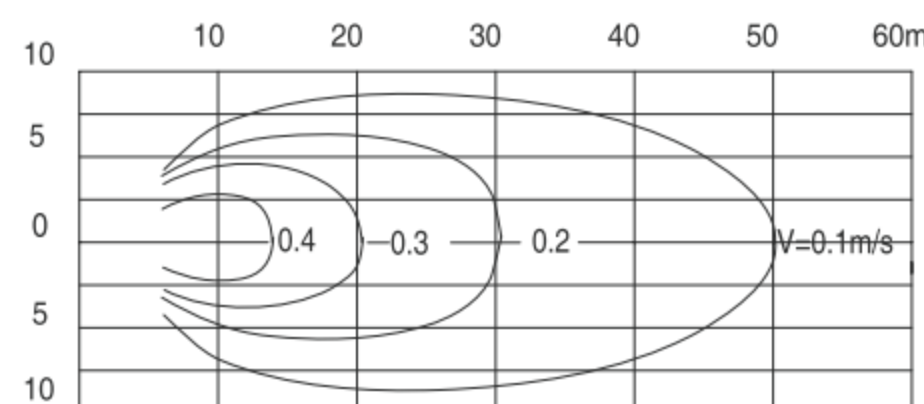
PJM3/4-1600-43



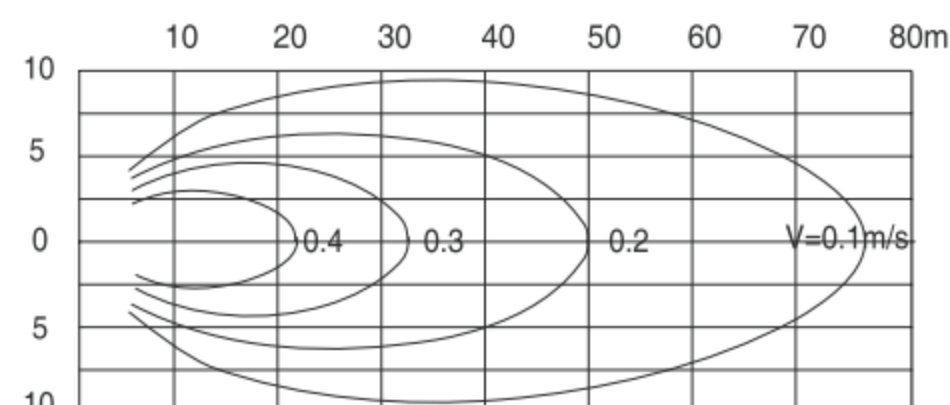
PJM2.2/4-1800-38



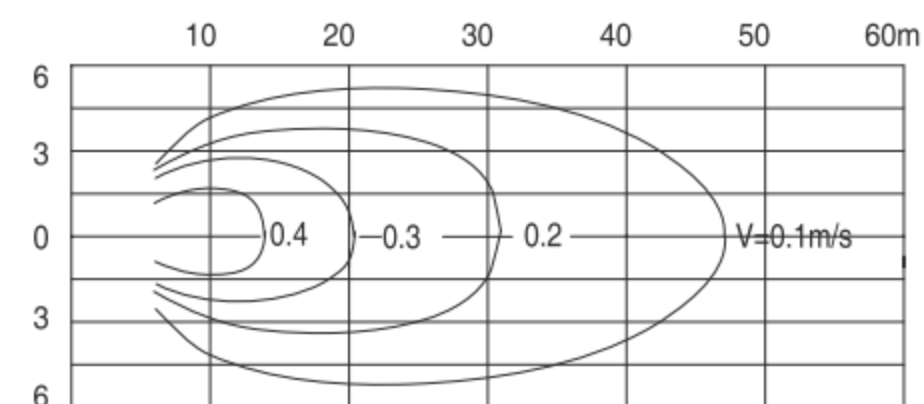
PJM4/4-1800-52



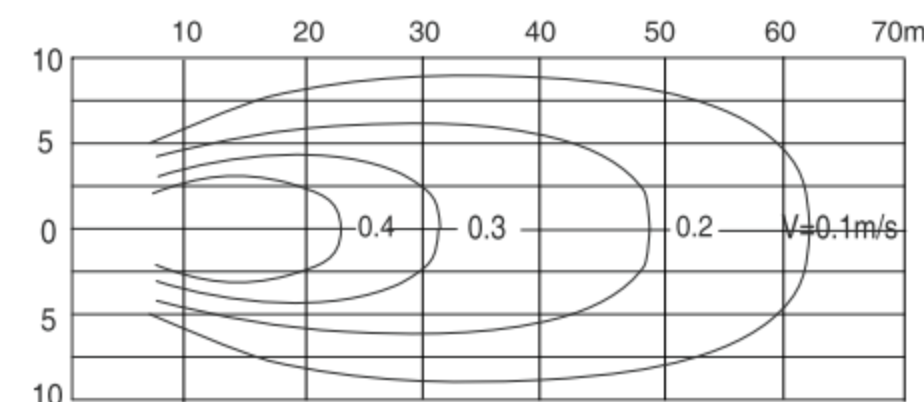
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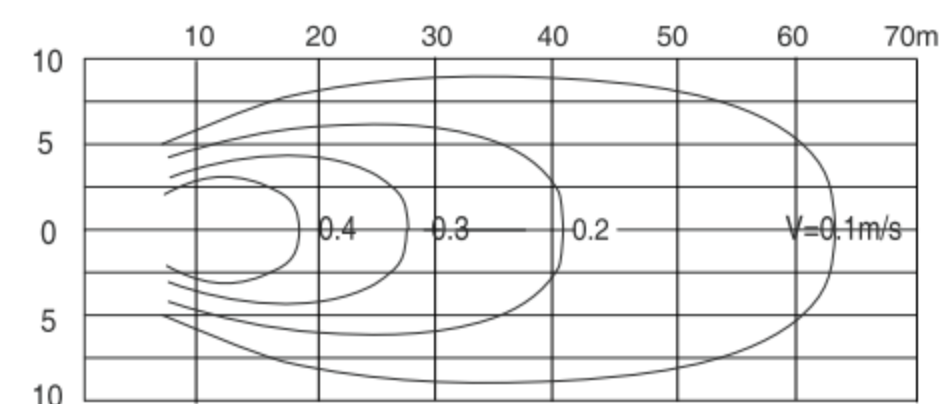
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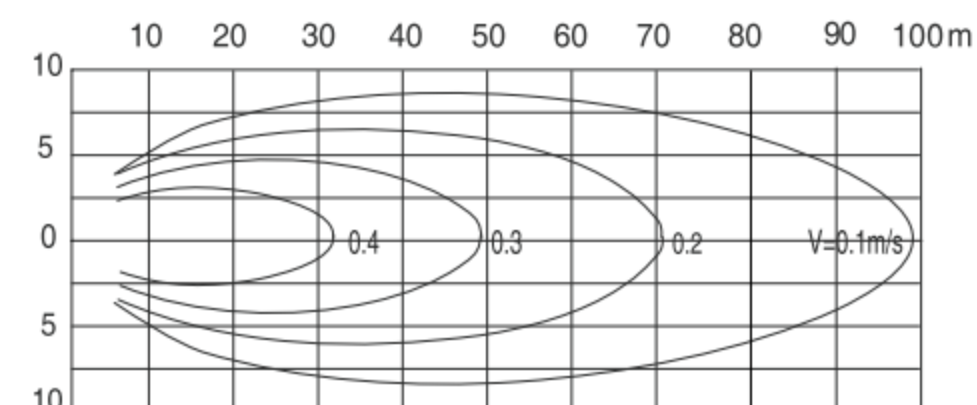
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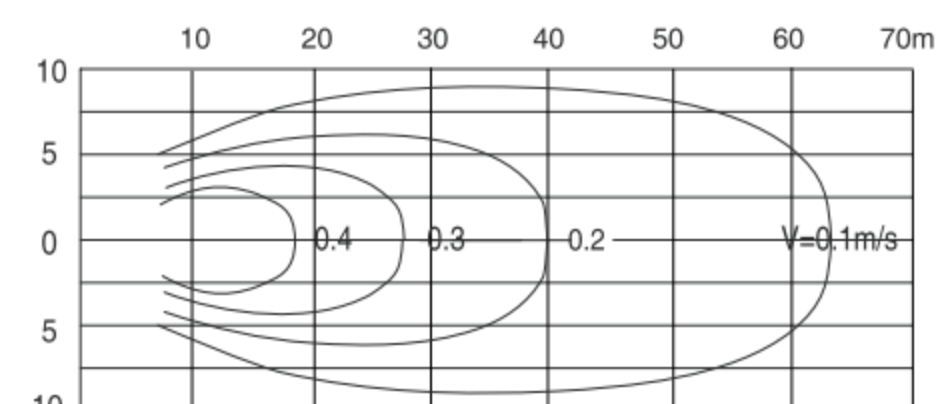
PJM4/4-1600-52



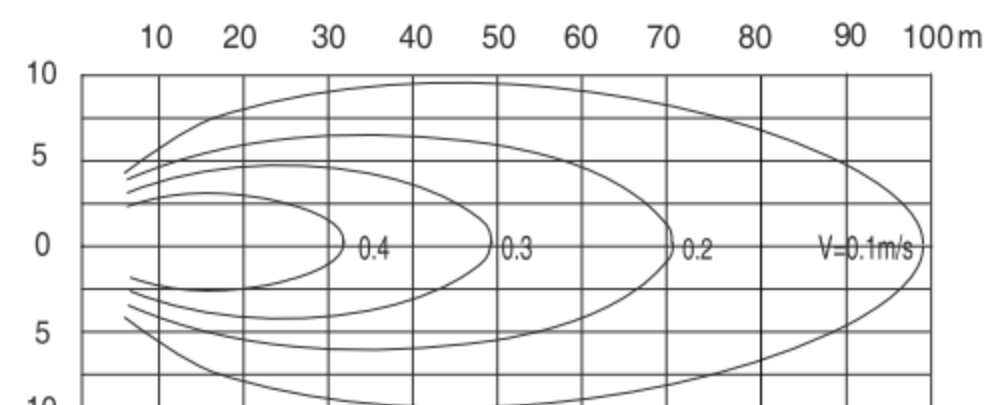
PJM3/4-1800-43



PJM5/4-1800-63

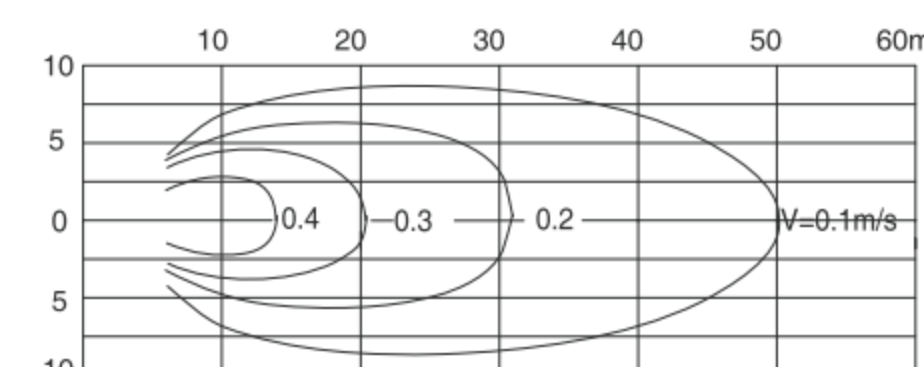


PJM3/4-2200-38

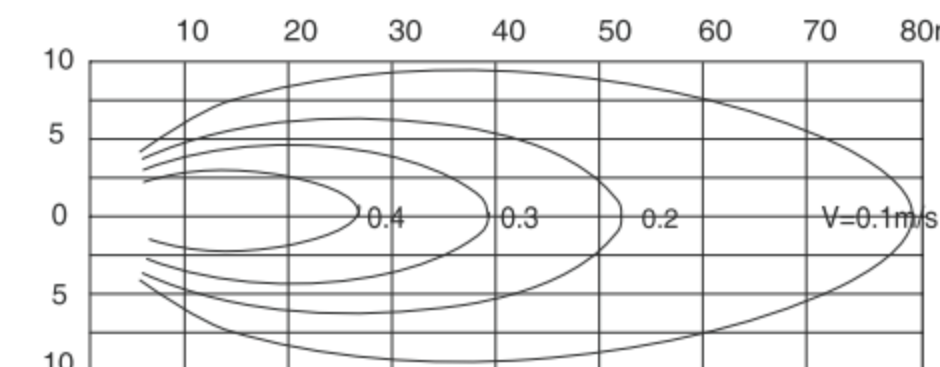


PJM5/4-2200-52

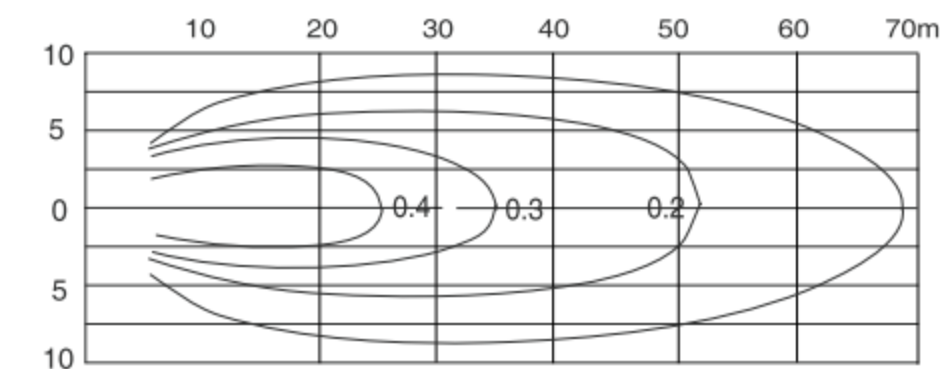
Diagrams of the flow field



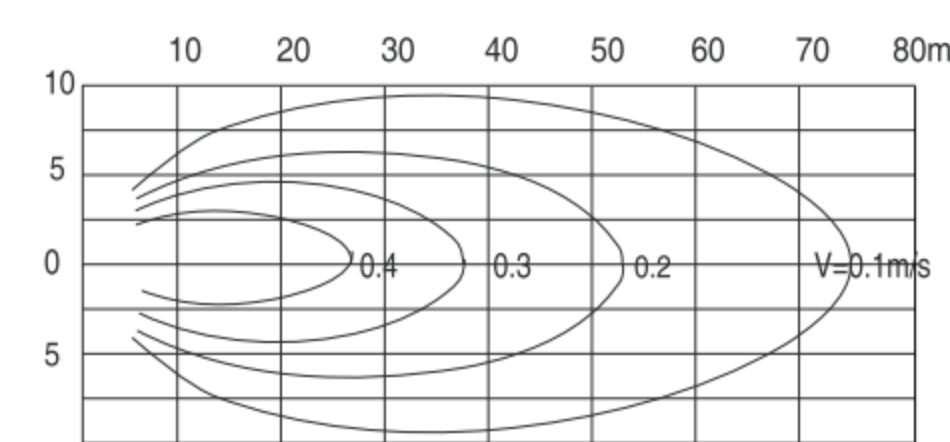
PJM2.2/4-2500-34



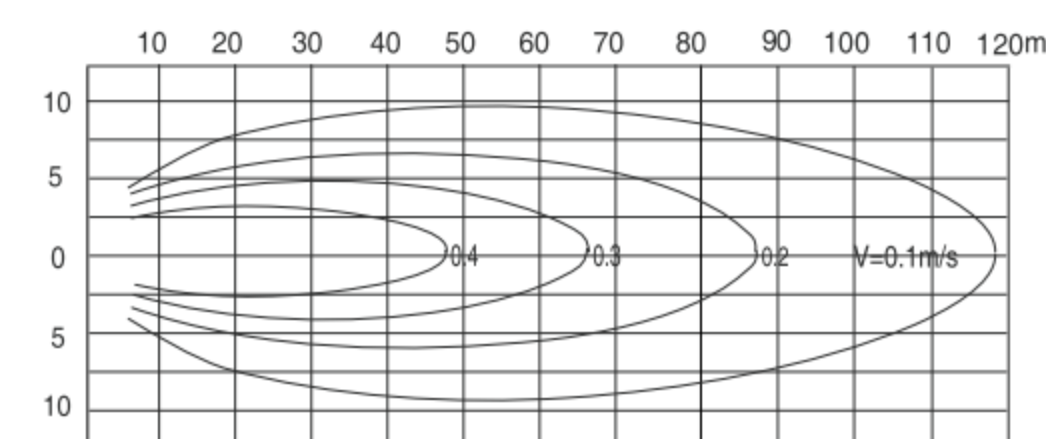
PJM4/4-2500-43



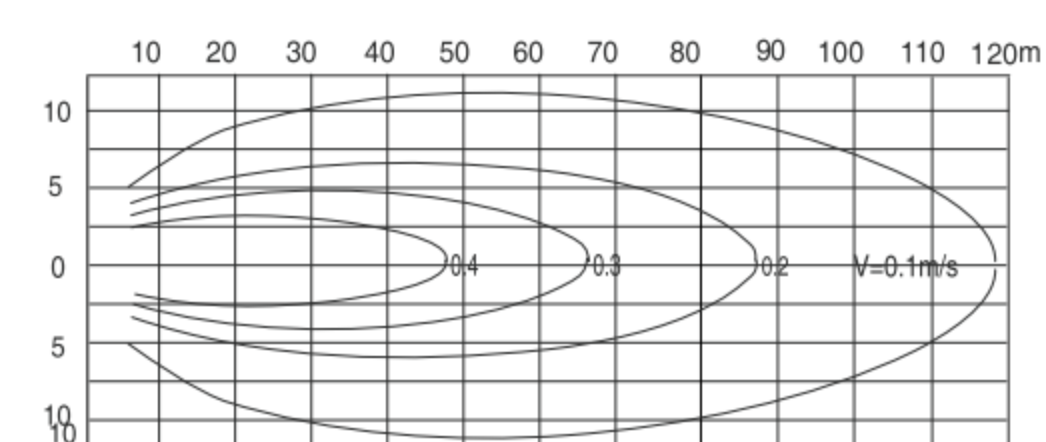
PJM4/4-1600/3-43



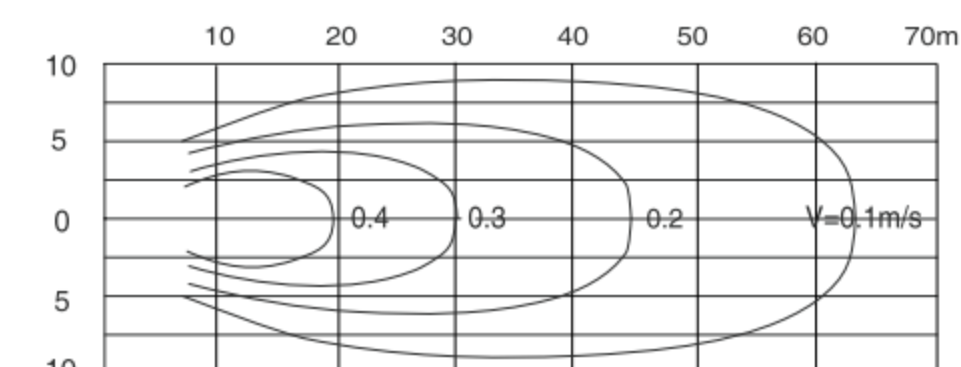
PJM4/4-1800/3-43



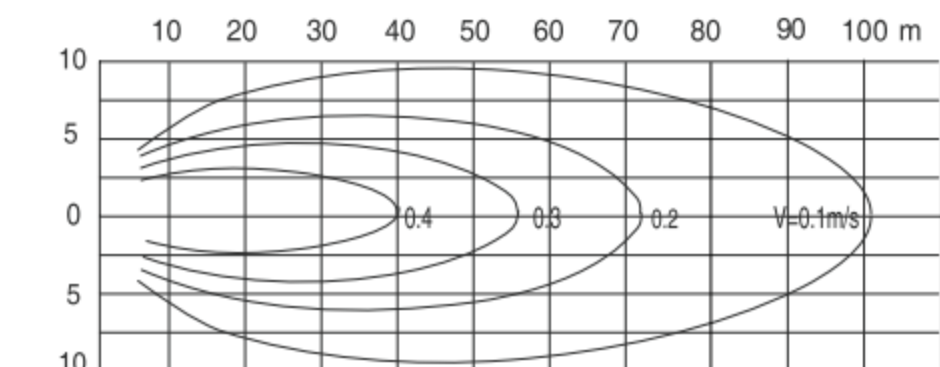
PJM7.5/4-1800/3-57



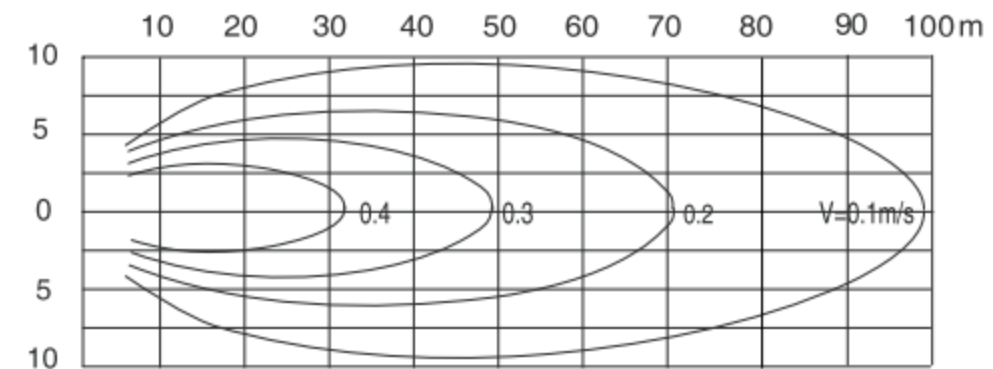
PJM5/4-2500/3-43



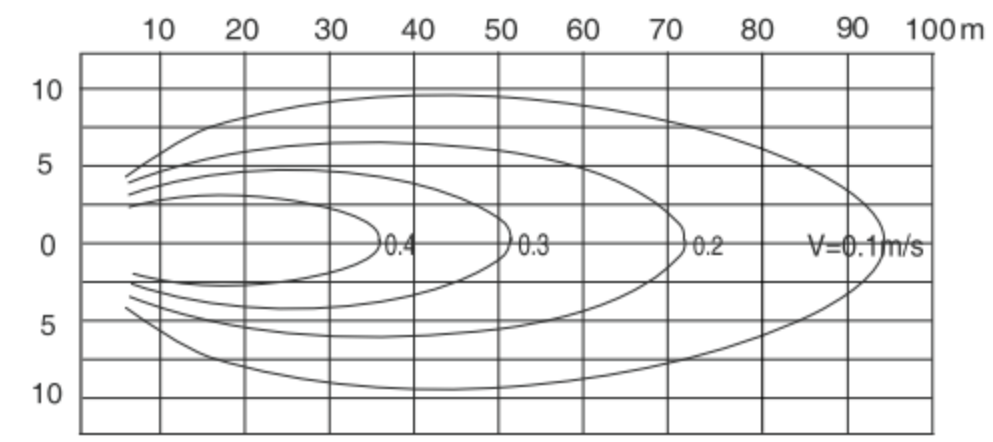
PJM3/4-2500-38



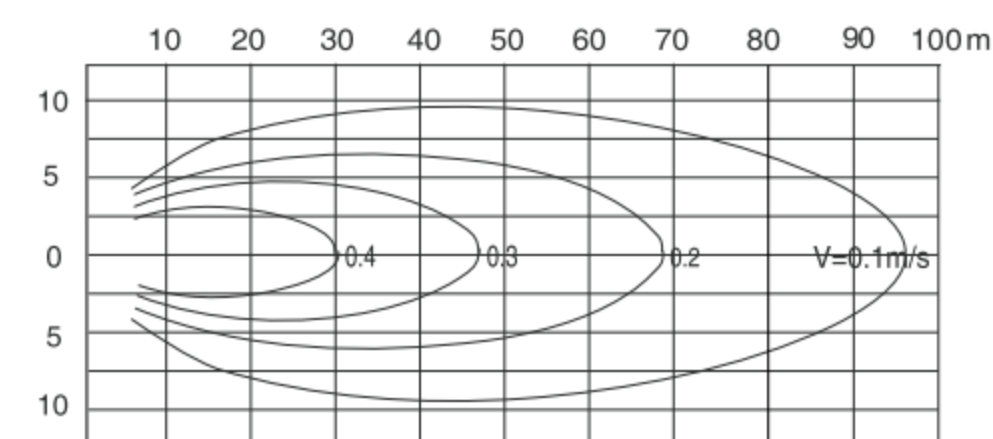
PJM5/4-2500-45



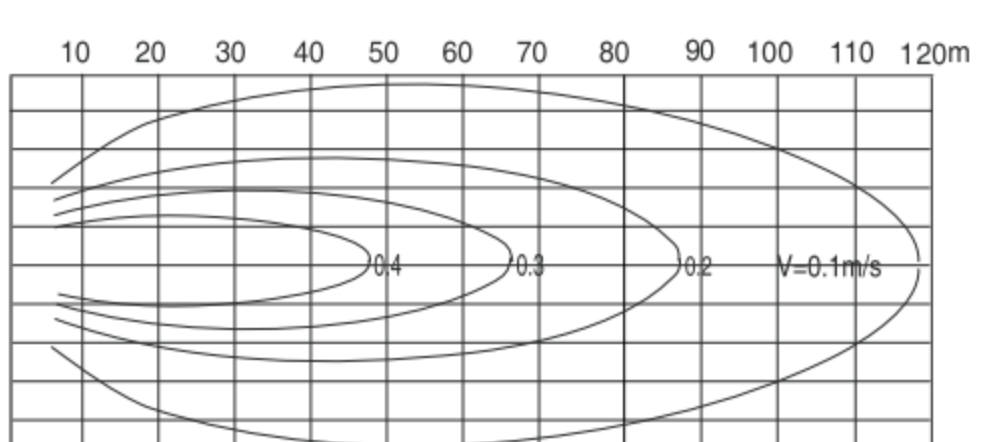
PJM5/4-1600/3-52



PJM5/4-1800/3-52



PJM4/4-2500/3-38



PJM7.5/4-2500/3-52

Installation modes and dimensions

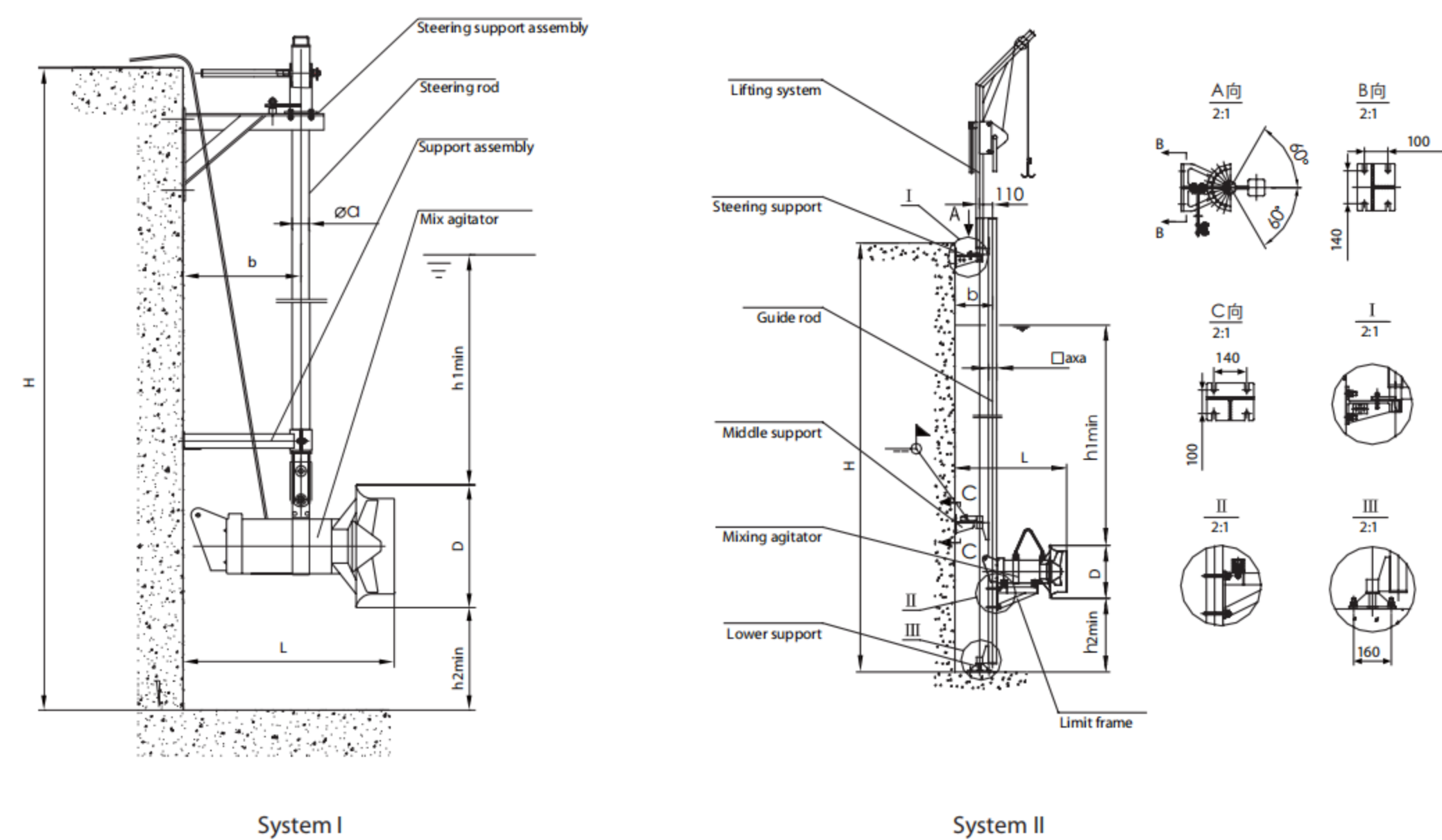
The submersible mixers can be installed in a multiple of modes . Here are four generally accepted modes of installation for selection with reference made to the following table . Our company can also provide the special designs in accordance with the demand of the users.

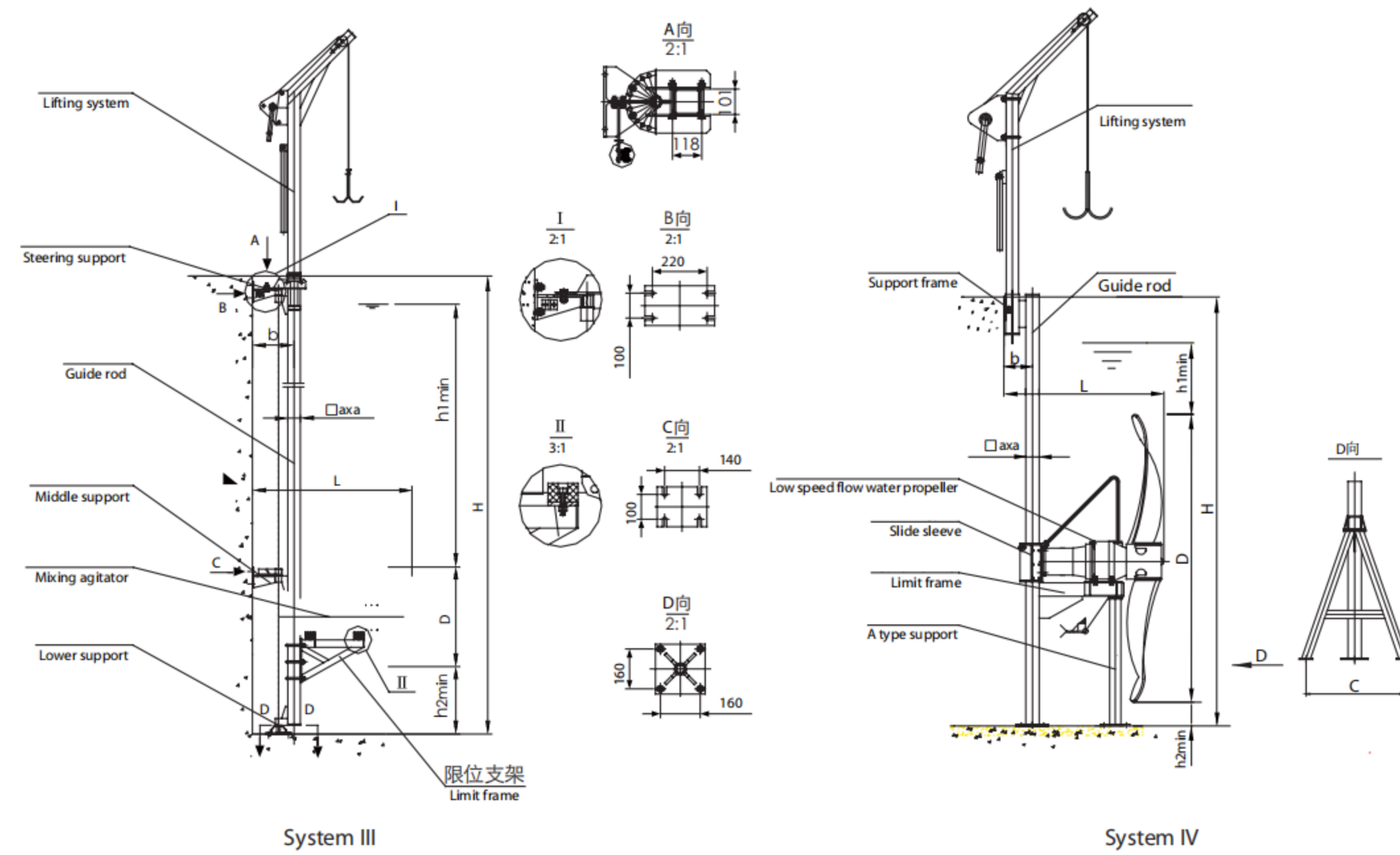
Model	a	D	b	L	H _{1min}	H _{2min}	Installation system
PJ0.37/6-220-980	Ø60 □40	360	330	630	500	110	I II
PJ0.55/4-220-1450	Ø60 □40	360	330	630	500	110	I II
PJ0.85/8-260-740	Ø60 □40	360	330	630	500	110	I II
PJ1.5/6-260-980	Ø60 □40	360	330	630	500	110	I II
PJ2.2/8-400-740	□70	460	320	970	800	150	II
PJ4/6-320-980	□70	460	320	970	800	150	II
PJ1.5/8-400-740	□70	530	320	960	800	200	II
PJ2.5/8-400-740	□70	530	320	960	800	200	II
PJ3/8-400-740	□70	530	320	1010	800	200	II
PJ4/6-400-980	□70	530	320	1010	800	300	II
PJ4/12-620-480	□100	760	335	1150	1100	300	III
PJ5/12-620-480	□100	760	335	1150	1100	300	III
PJ7.5/12-620-480	□100	760	335	1280	1500	300	III
PJ10/12-620-480	□100	760	335	1280	1500	300	III
PJ11/12-620-480	□100	760	335	1150	1100	300	III
PJ15/12-620-480	□100	760	335	1280	1100	300	III
PJ18.5/12-620-480	□100	760	335	1280	1500	300	III
PJ22/12-620-480	□100	760	335	1100	1500	300	III
PJM1.5/4-1100-43	□100	1100	200	1100	1000	280	IV
PJM2.2/4-1100-52	□100	1100	200	1100	1000	280	IV
PJM3/4-1100-87	□100	1100	200	1100	750	280	IV
PJM4/4-1100-115	□100	1100	200	1100	750	280	IV
PJM2.2/4-1400-43	□100	1400	200	1100	750	280	IV
PJM3/4-1400-63	□100	1400	200	1100	800	280	IV
PJM4/4-1400-87	□100	1400	200	1100	800	280	IV
PJM2.2/4-1600-38	□100	1600	200	1100	800	280	IV
PJM3/4-1600-43	□100	1600	200	1100	900	280	IV
PJM4/4-1600-52	□100	1600	200	1100	750	280	IV
PJM2.2/4-1800-38	□100	1800	200	1100	800	280	IV
PJM3/4-1800-43	□100	1800	200	1100	800	280	IV
PJM4/4-1800-52	□100	1800	200	1100	750	280	IV
PJM5/4-1800-63	□100	1800	200	1200	800	280	IV
PJM2.2/4-2200-34	□100	2200	200	1200	800	280	IV
PJM3/4-2200-38	□100	2200	335	1200	1500	300	III
PJM4/4-2200-43	□100	2200	200	1200	1000	280	IV
PJM5/4-2200-52	□100	2200	200	1200	1000	280	IV
PJM2.2/4-2500-34	□100	2500	200	1200	750	280	IV
PJM3/4-2500-38	□100	2500	200	1200	750	280	IV
PJM4/4-2500-43	□100	2500	200	1200	750	280	IV
PJM5/4-2500-45	□100	2500	200	1200	800	280	IV
PJM4/4-1600/3-43	□100	1600	200	1100	800	280	IV
PJM5/4-1600/3-52	□100	1600	200	1100	800	280	IV
PJM4/4-1800/3-43	□100	1800	200	1100	900	280	IV
PJM5/4-1800/3-52	□100	1800	200	1100	750	280	IV
PJM7.5/4-1800/3-57	□100	1800	200	1100	800	280	IV
PJM4/4-2500/3-38	□100	2500	200	1200	800	280	IV
PJM5/4-2500/3-43	□100	2500	200	1200	750	280	IV
PJM7.5/4-2500/3-52	□100	2500	200	1200	800	280	IV

Notes :

- The special installation systems for the submersible mixers can facilitate the quick installation and dismantling of the submersible mixers under the conditions of no need for draining off sewage from the pond.
- Installation System I is only suitable for H≤3m and the mixer models of PJ0.37/6 , PJ0.55/4 , PJ0.85/8 and PJ1.5/6, and with the possibility of adjusting the angles in both horizontal direction and langitudinal direction.
- For installation systems II and III, the guide rod can rotate round the axial line of the guide rod along the horizontal direction with the maximum angle of rotation ±60°, if H>4m, it is necessary to add a supporting frame between the guide rods.
- The supporting frame and the lower support shall be fixed onto the pond wall and the pond bottom with the use of expansion bolts or chemical anchors. For the big diameter impellers and the big power mixers the best choice is to pre-embed.
- While placing an order by customer. Please supply the pond depth H and the drawing of the pond shape so as to determine the dimensions of the guide rod and the number of the supporting frames.
- A multiple of mixers with the same installation system can share one lifting system.
- The installation systems may employ the material of stainless steel or carbon steel for the selection of the corrosion-resisting properties.

Installation dimensions





Arranging sketch map

The installation and positioning of the submersible mixers will produce a great impact on the effect of mixing. In order to obtain the perfect operating result, it is suggested that the advice of the specialized designers shall be followed and full consideration given to the shape of the pond, position of the water inlet and outlet, the vortex resulting from the outflow from the mixer onto the structures and some other conditions. Every effort shall be made to reduce the short-circuit circulation and the occurrence of dead corners and avoid the dashing of the flow against the pond wall for lowering the flow velocity. Making reference to the arranging sketch map below will help you to make a reasonable selection of the mixers and their installation modes.

Mixing agitator

Avoid short circuit flows



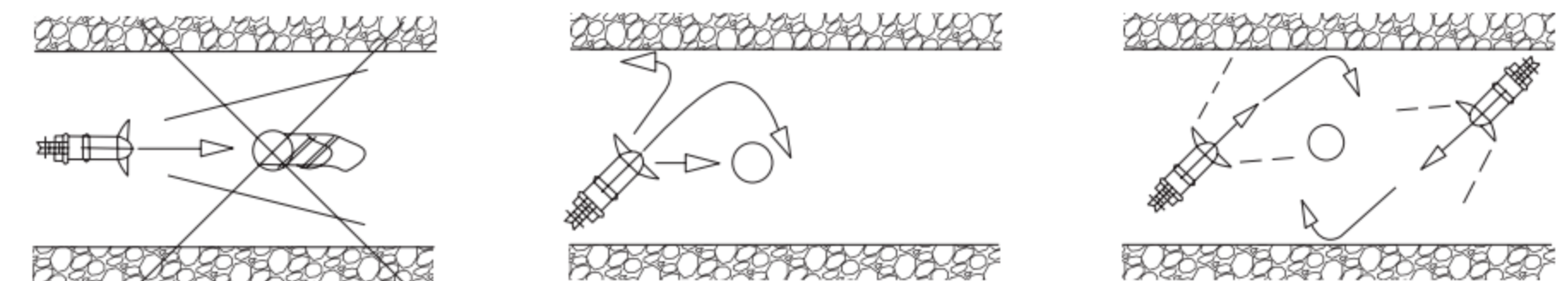
Take inlet and outlet into account



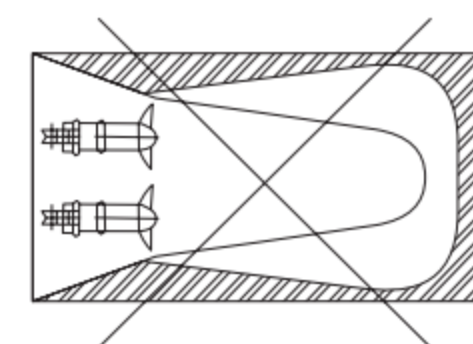
Take jet expansion into account, no unnecessary wall friction



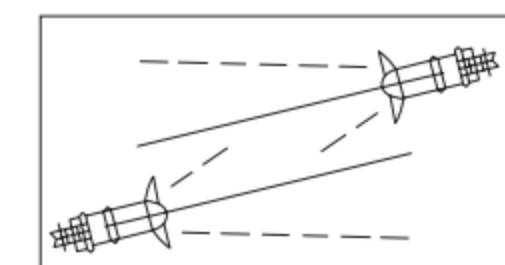
Installations cause dead zones



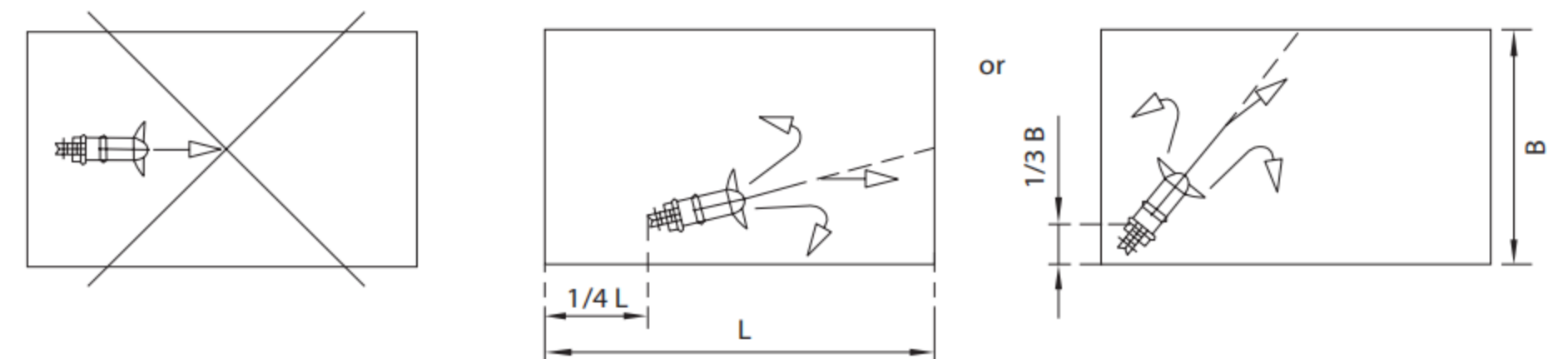
Jet intersections



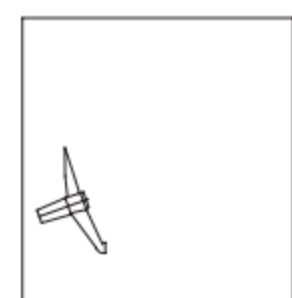
Take uniform energy supply into account



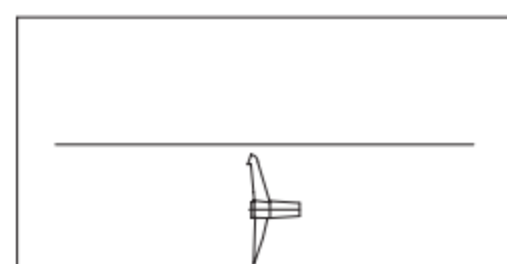
Use wall reflections



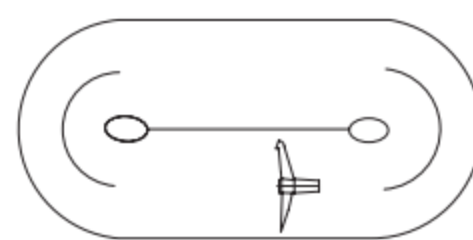
Low-speed flow propeller



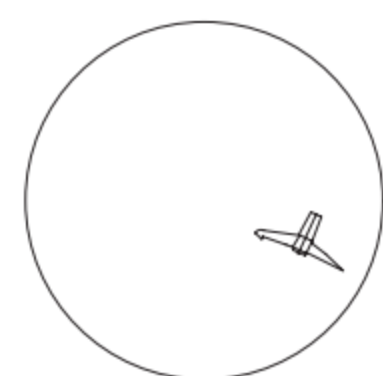
Square pond



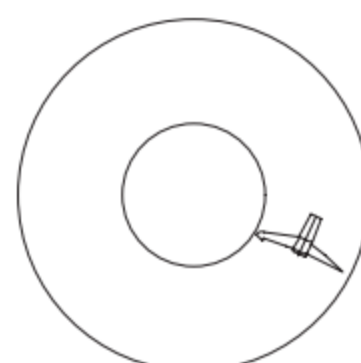
Rectangular pond



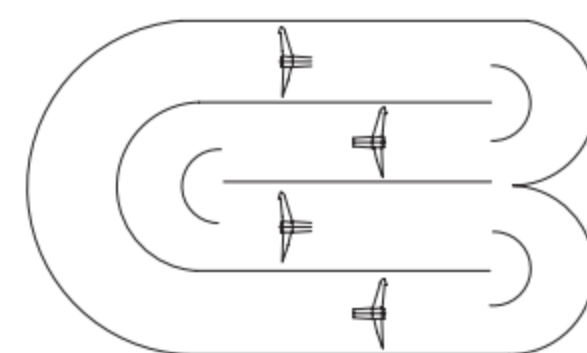
Track-shaped pond



Circular pond



Ring-shaped pond



S-shaped pond

For further details, please fulfill the chart below.

Customer _____ Undertaker _____

Name of project _____ Address of project _____

Telephone _____ Fax _____

Basic parameters	* Processes name	Oxidation ditch ☐	A-O ☐	SBR ☐	Others					
	* Installation location	Others								
	* Pond form (m)	I	W	H	I	W	H	I	W	H
	* (m) Available water depth									
Media parameter	Name					Density				
	Main composition					* PH				
	* Temperature					Viscosity				
	Other									
Technique parameters	* Mixing methods	Mixing agitator ☐		Flow propeller ☐		Other				
	* (m/s) Minimum flow speed at the bottom									
	Other requests									
Pool structure	* Pool surface structure	 ☐	 ☐	 ☐	Others					
	* Pool bottom structure	 ☐	 ☐	 ☐	Others					
Material requests	Sheall body					* Guide and support				
	Mixing propeller					* Hanger and support				
	Fairwater(need or not)					* Bolt, nut and gasket				
	Main shaft					* Boom hoist cable				
The machine parameters	Driving method					(kW) Motor power				
	Seal type					(A) Rated current				
	Propeller diameter (mm)					Power				
	Propeller speed (rpm)					Protection grade				
	Thrust (N)					Working standard				
Others										

Note: In order to choose the right type, the item with "*" should be filled as detail as possible.