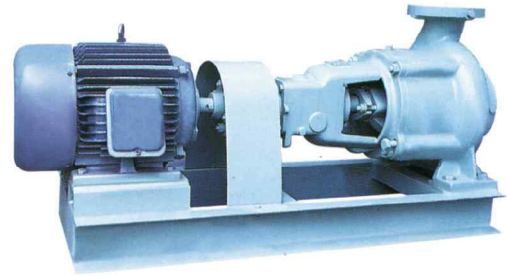


EVP

Horizontal, Single Stage, Non-clog, Vortex Pumps(Torque Flow Pumps)

횡축, 단단, 논클로그, 볼텍스 펌프(토크 플로우 펌프)

10Bar / PN 10Bar



EVP

설계 및 구조적 특징 / Design and construction features

01. 볼텍스 펌프는 입축매달림 구조 및 외팔보형 구조, 횡형 및
입형의 드라이 피트용, 웨트 피트용 등과 같이 다양한 종류가
있다.
02. 중부하용 베어링 하우징과 회전부품을 포함한 케이싱 카버를
쉽게 뒤로 빼낼수 있는 후빙취출 구조로 설계되어 있으므로
흡입 또는 토출 배관을 건드리지 않고도 펌프를 정비할 수 있다.
03. 취급액체의 성질에 맞추어 팩킹을 장착하거나 메카니칼
씰을 장착할 수 있다.
04. 볼텍스 펌프는 운전조건에 따라서 주철, 주강 스텐레스강,
청동 등 다양한 재질로써 제조된다.
05. 펌프케이싱 전체에 걸쳐 거의 방해물이 없는 통로로
되어 있으므로 물체는 임펠러 베일 사이를 통과하지 않고
임펠러 앞쪽으로 흐르게 된다. 따라서 참으로 막히지 않는
특성이 구비되며 대형 섬유성 끈모양의 고형물, 부유슬라리,
오수 등을 막힘없이 용이하게 취급할 수 있게 된다.
06. 배면깃이 축추력과 스터핑 박스 압력을 줄이게 되므로 씰,
팩킹, 스리브, 베어링 등의 수명이 연장된다.
07. 펌핑 작용이 임펠러 베인에 의해 발생된다고 보다는 유도된
볼텍스에 의해 기인되므로 낮은 NPSH의 공기 함유펄프,
침전물 찌꺼기, 가스 또는 공기 함유액체 등의 취급에 탁월한
능력을 발휘한다.
08. 케이싱 내의 압력이 점진적으로 형성되므로 액체의 취급이
정숙하게 되어 결정체에 대한 손상이 적어진다. 파손되기
쉬운 물질이나 입자도 최소한의 손상으로써 취급 가능하다.
09. 케이싱 내에서 볼텍스 회전 속도가 점진적으로 변화하므로
완벽한 혼합을 할 수 있게 된다.

※ 상기 사양범위를 초과하는 대형 펌프도 제작합니다.

01. The vortex pump is available in all configurations: suspended and
cantilever design ; horizontal and vertical dry pit ; and wet pit
02. Heavy duty bearing housing and rotating elements with casing
cover are easily accessible due to its back pull-out design which
permits pump-maintenance without disturbing suction or
discharge piping
03. choice of packing or mechanical seal to suit fluid being handled.
04. The vortex pumps are manufactured in a wide range of materials,
such as cast iron, cast steel, stainless steel, or bronze for variety of
operating conditions.
05. There is an absolutely unobstructed passage throughout
the pump casing and the material flow in front of the impeller,
not through it, true nondogging characteristics can be provided
and large, fibrous and stringy solids, slurries suspending in liquids,
and sewage etc. are easily handled without clogging. Solid size is
limited only by suction and discharge nozzle diameter.
06. Back vanes reduce axial thrust and stuffing box pressure resulting
in extended seal, packing, sleeve and bearing life.
07. Since pumping action is by induced vortex rather than by
impeller vanes, the vortex pump is superior for handling aerated
pulpes sludges gas or air entrained liquids etc, with Low NPSH.
And it is reliable even with abrasive media because of its hydraulic
principles.
08. Because of the slow build up pressure in the casing, particularly
gently handling of the liquid and minimum damage to crystal are
guaranteed. Fragile materials or particles can, also, be handled
with minimum is achieved.
09. Due to continuously changing speed of rotation of the vortex
in the casing, very thorough mixing is achieved.

* The out of the above range can be supplied according to customer's
order placement.

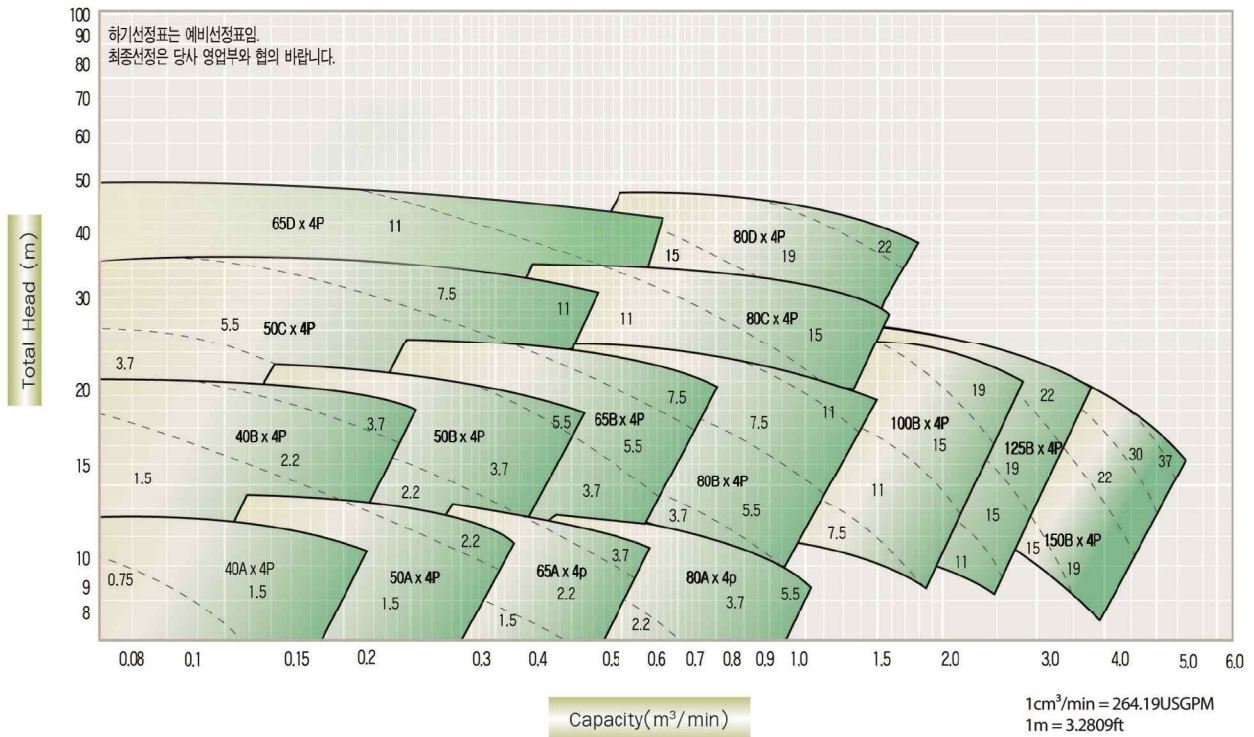
형식 표시 방법 / Type nomenclature

- ▶ 시리즈(Series) —————
- ▶ 사이즈/흡입 구경(Size/Nominal dia. of suction nozzle) —————
- ▶ 양정 등급(Head ratings) : A,B,C,..... —————

EVP-40A

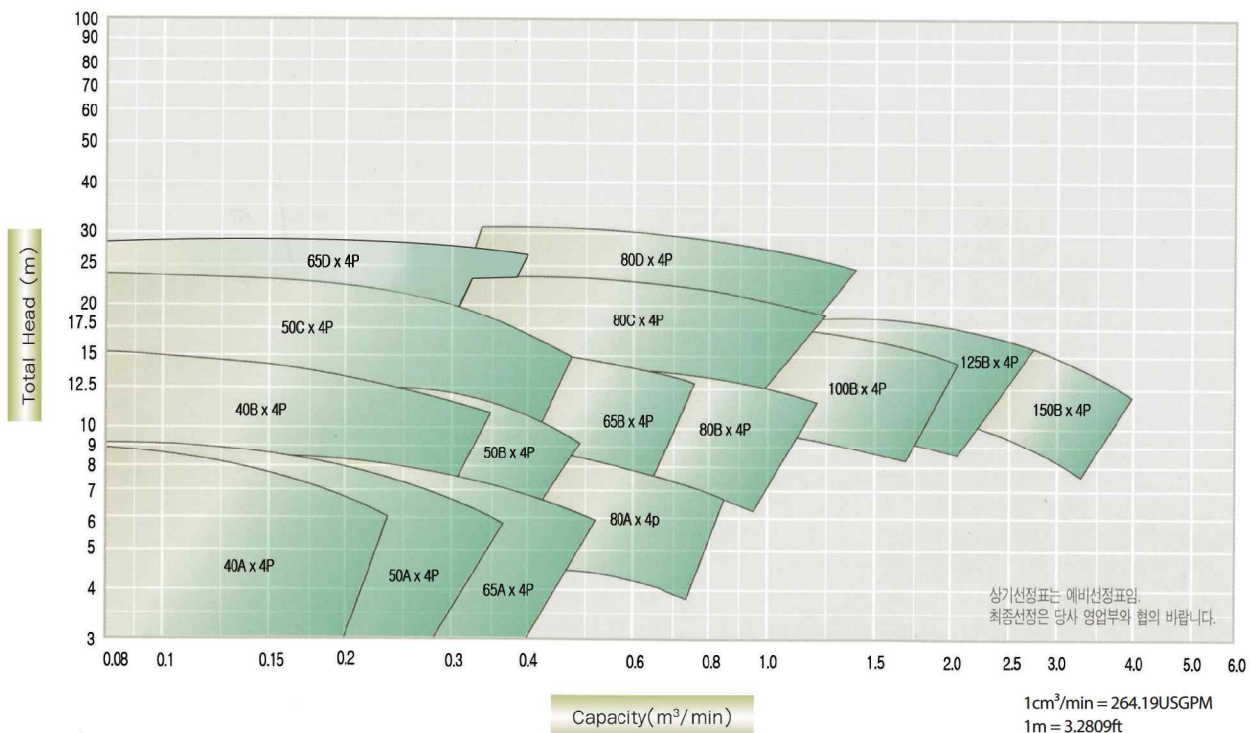
EVP

선정표(60HZ에서) / Performance selection chart(60Hz)



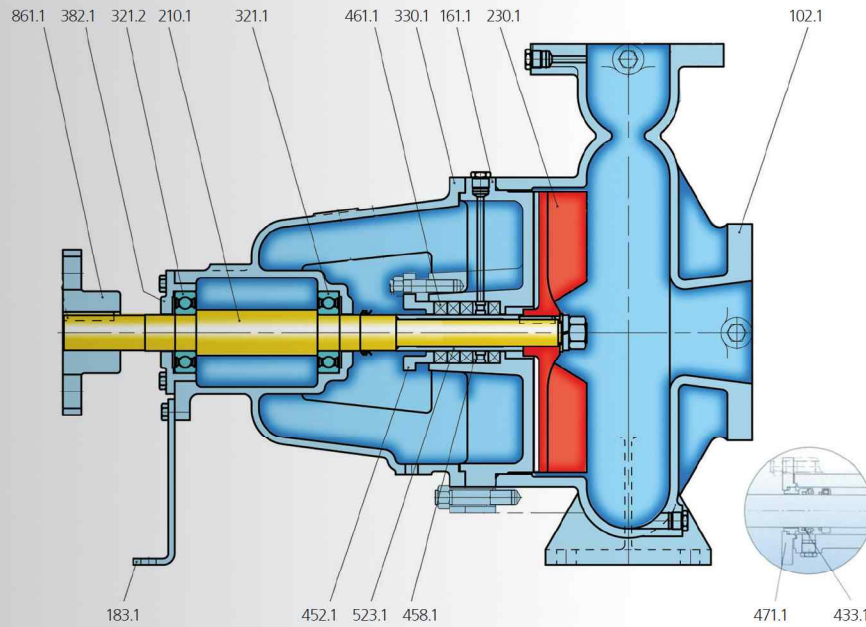
* The out of the above range can be supplied according to customer's order placement.

선정표(50HZ에서) / Performance selection chart(50Hz)



* The out of the above range can be supplied according to customer's order placement.

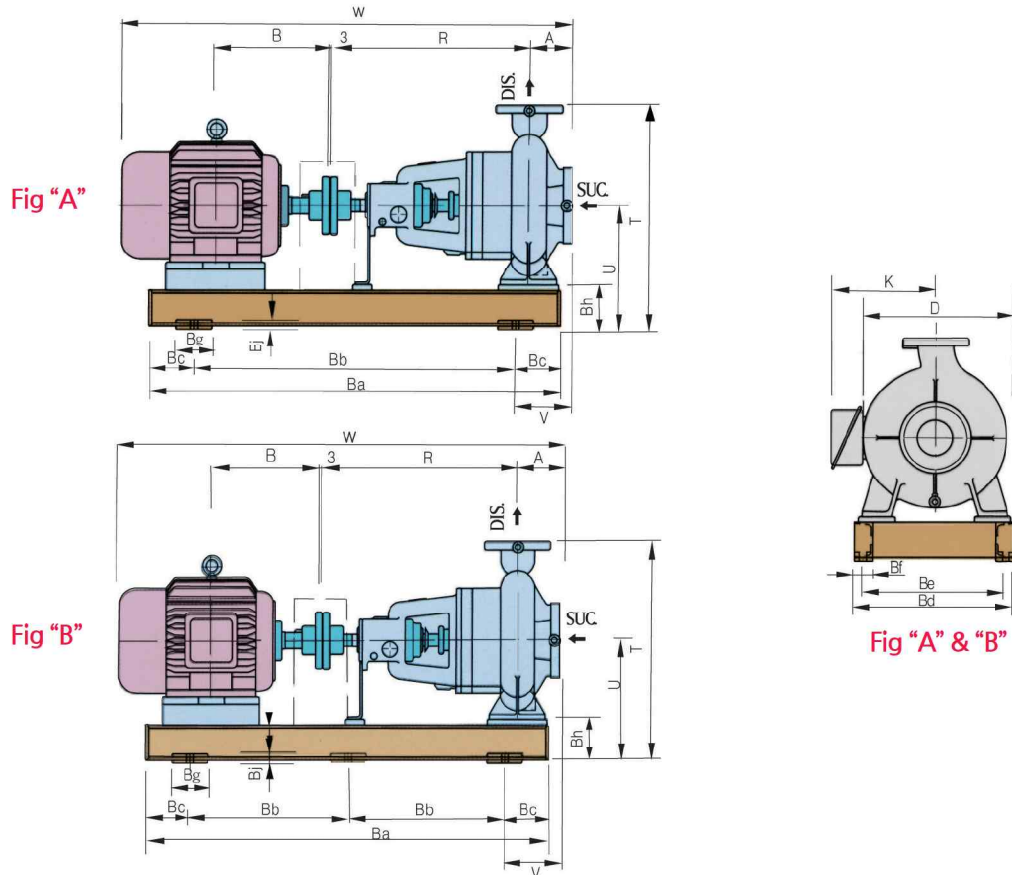
조립 단면도 / Sectional drawing



EVP

NO.	PART NAME	MATERIAL								Q'ty
		CLASS 1	CLASS 2	CLASS 3	CLASS 4	CLASS 5	CLASS 6	CLASS 7	CLASS 8	
102.1	VOLUTE CASING	GC 200	GC 250	GCD 450	SC 450	SSC 13	SSC 14	SSC 16	CAC 406	1
161.1	CASING COVER	GC 200	GC 250	GCD 450	SC 450	SSC 13	SSC 14	SSC 16	CAC 406	1
183.1	SUPPORT	SS 400								1
210.1	SHAFT	SM 45C / STS 304		STS 304			STS 316	STS 316L	STS 304	1
230.1	IMPELLER	GC 200 / CAC 406 / SSC 13		SSC 13	SSC 13	SSC 13	SSC 14	SSC 16	CAC 703/CAC 502A	1
321.1	BALL BEARING	STB 2								1
321.2	BALL BEARING	STB 2								1
330.1	BEARING HOUSING	GC 200								1
382.1	BEARING CASE	GC 200								1
*433.1	MECHANICAL SEAL	-								1
452.1	PACKING GLAND	GC 200				SSC 13	SSC 14	SSC 16	CAC 406	1
458.1	LANTERN RING	CAC 406			SSC 13		SSC 14	SSC 16	CAC 406	1
461.1	PACKING	NON METALLIC								1SET
*471.1	SEAL COVER	STS 304					STS 316	STS 316L	STS 304	1
523..1	SHAFT SLEEVE	STS 304					STS 316	STS 316L	STS 304	1
861.1	COUPLING	GC 200								1

* OPTION



• Dimensions for the standard unit driven by ICE standard motor.

TYPE	FIG	MOTOR FRAME NO.	BORE		PUMP & MOTOR DIMENSIONS(MM)										BASE PLATE DIMENSIONS(MM)										WEIGHT(KG)			
			SUC.	DIS.	A	B	D	K	R	T	U	V	W	Ba	Bb	Bc	Bd	Be	Bf	Bg	Bh	Bj	Bz	PUMP	MOTOR	BASE	TOTAL	
EVP 40A	A	80M	Ø 40	Ø 32	60	140	224	159	390	387	227	130	726	700	450	125	290	225	40	80	95	25	15	25	15	28	68	
		90L				168.5		174				130	788	700	450	125									24	28	77	
		100L				193		196				130	825	750	500	125									30	30	85	
		112M				200.5		206				130	830	750	500	125									39	30	94	
		132S				239		229				155	892	850	550	150									56	34	115	
		132M				258		229				155	930	850	550	150									70	34	129	
		160M				323		294		440	280	180	1036	950	600	175	325	280	50	100	148	28	19		109	40	174	
		160L				345		294				180	1080	950	600	175									136	40	201	
EVP 40B	A	90L	Ø 40	Ø 32	80	168.5	263	174	400	435	255	155	818	700	450	125	290	255	40	80	95	25	15	35	24	28	87	
		100L				193		196				150	855	750	500	125									30	30	95	
		112M				200.5		206				150	860	750	500	125									39	30	104	
		132S				239		229				170	922	850	550	150									56	33	124	
		132M				258		229				170	960	850	550	150									70	33	138	
		160M				323		294		460	280	200	1066	950	600	175	325	280	50	100	120	28	19		109	40	184	
		160L				345		294				200	1110	950	600	175									136	40	211	
		180M				351		317		480	300	225	1138	1000	600	200	365	320	50	100	140	28	19		161	45	241	
		180L				370		312				225	1198	1000	600	200									182	45	262	
EVP 50A	A	80M	Ø 50	Ø 40	80	140	278	159	400	387	227	150	756	700	450	125	290	255	40	80	95	25	15	29	15	28	72	
		90L				168.5		174				150	818	700	450	125									24	28	81	
		100L				193		196				150	855	750	500	125									30	30	89	
		112M				200.5		206				150	860	750	500	125									39	30	98	
		132S				239		229				175	922	850	550	150									56	34	119	
		132M				258		229				175	960	850	550	150									70	34	133	
		160M				323		294		440	280	200	1066	950	600	175	325	280	50	100	148	28	19		109	40	178	
		160L				345		294				200	1110	950	600	175									136	40	205	
		180M				351		317		460	300	200	1138	1000	600	200	370	325	50	100	168	28	19		161	43	233	

• 차수는 참고용임

• Dimensions for the standard unit driven by ICE standard motor.

TYPE	FIG	MOTOR FRAME NO.	BORE		PUMP & MOTOR DIMENSIONS(MM)										BASE PLATE DIMENSIONS(MM)												WEIGHT(KG)							
			SUC.	DIS.	A	B	D	K	R	T	U	V	W	Ba	Bb	Bc	Bd	Be	Bf	Bg	Bh	Bj	Bz	PUMP	MOTOR	BASE	TOTAL							
EVP 50B	A	100L	Ø 50	Ø 40	80	193	278	196	410	435	255	145	865	750	500	125	315	280	40	80	95	25	15	43	30	28	101							
		112M				200.5		206				155	870	750	500	125									39	28	110							
		132S				239		229				175	932	850	550	150									56	32	131							
		132M				258		229				175	970	850	550	150									70	35	148							
		160M				323		294		220	1076	1000	600	200	335	290	120	109	40	192														
		160L				345		294		220	1120	1000	600	200	365	320	140	136	40	219														
	B	180M			351	317	480	300	150	1148	1050	400	125	365	320	50	100	140	28	19	161	45	249											
		180L			370	312			150	1208	1050	400	125								182	45	270											
		200L			425.5	364	500	320	150	1303	1050	400	125	410	365	160	295	47	385															
		EVP 50C			A	90L	Ø 50	Ø 40	80	168.5	325	174	410	500	275	135	828	750	500	125	370	335	40		80	95	25	15	48	24	30	102		
100L	193		196	160		865				800		500				150	30	30	108															
112M	200.5		206	160		870				800		500				150	39	33	120															
132S	239		229	160		932				850		550				150	56	35	139															
132M	258		229	165		970				850		550		150	70	35	153																	
160M	323		294	207		1076				1000		600		200	370	335	50	100	120	28	19	109	45	202										
160L	345		294	207	1120	1000			600	200	370	335	50	100	120	28	19	136	45	229														
B	180M		351	317	460	280			240	1096	1000	600	200	335	290	50	100	120	28	19	161	45	219											
	180L	370	312	240			1140	1000	600	200	161	48	247																					
200L	425.5	364	500	320	165	1228	1050	400	125	365	320	140	182	48	268																			
EVP 65A	A	80M	Ø 65	Ø 50	100	140	244	159	410	435	255	165	786	700	450	125	315	280	40	80	95	25	15	38	15	25	78							
		90L				168.5		174				165	848	750	500	125									24	28	90							
		100L				193		196				165	885	750	500	125									30	28	96							
		112M				200.5		206				175	890	750	500	125									39	28	105							
		132S				239		229				190	952	850	550	150									56	35	129							
		132M				258		229				190	990	850	550	150									70	35	143							
		160M				323		294		240	1096	1000	600	200	335	290	120	109	45	192														
		160L				345		294		240	1140	1000	600	200	335	290	120	136	45	219														
	B	180M				351		317		460	280	240	1140	1000	600	200	335	290	50	100	120	28	19	161	48	247								
		180L				370		312				165	1228	1050	400	125								365	320	140	182	48	268					
		200L				425.5		364		500	320	165	1323	1050	400	125	410	365	160	295	48	381												
		EVP 65B				A		100L		Ø 65	Ø 50	80	193	288	196	420	455	255	170	875	800	500	150	315	280	40	80	95	25	15	47	30	32	109
								112M					200.5		206				170	880	800	500	150									39	32	118
								132S					239		229				170	942	850	550	150									56	35	138
132M	258		229	170	980		850	600	150				70		35				152															
160M	323		294	220	1086		1000	600	200				335		290		50	100	120	28	19	109	45	201										
160L	345		294	220	1130		1000	600	200				335		290		50	100	120	28	19	136	45	228										
EVP 80A	A	80M	Ø 80	Ø 65	100	140	266	159	425	455	255	155	801	700	450	125	315	280	40	80	95	25	15	49	15	24	88							
		90L				168.5		174				155	863	750	500	125									24	28	101							
		100L				193		196				180	900	800	500	150									30	32	111							
		112M				200.5		206				180	905	800	500	150									39	32	120							
		132S				239		229		480	280	205	967	900	550	175	335	290	50	100	120	28	19		56	38	143							
		132M				258		229				205	1005	900	550	175									70	38	157							
EVP 80B	A	80M	Ø 80	Ø 65	100	140	313	159	430	500	275	155	806	750	500	125	350	315	40	80	95	25	15	55	15	28	98							
		90L				168.5		174				155	868	750	500	125									24	28	107							
		100L				193		196				180	905	800	500	150									30	32	117							
		112M				200.5		206				180	910	800	500	150									39	32	126							
		132S				239		229		525	300	205	972	900	550	175	370	325	50	100	120	28	19		56	38	149							
		132M				258		229				205	1010	900	550	175									70	38	163							
		160M				323		294				230	1116	1000	600	200									109	45	209							
		160L				345		294				230	1160	1000	600	200									136	45	236							
EVP 80C	A	132M	Ø 80	Ø 65	100	258	373	229	540	570	320	210	1120	1000	600	200	410	365	50	100	120	30	19	73	70	45	188							
		160M				323		294				135	1226	1150	450	125									109	51	233							
	B	160L				345		294				135	1270	1150	450	125									136	51	260							
		180M				351		317				135	1298	1150	450	125									161	51	285							
		180L				370		312				160	1358	1200	450	150									182	53	308							
EVP 80D	B	160M	Ø 80	Ø 65	125	323	414	294	520	625	345	185	1231	1100	400	150	410	365	50	100	120	30	19	85	109	51	245							
		160L				345		294				195	1275	1100	400	150									136	51	272							
		180M				351		317				160	1303	1150	450	125									161	53	299							
		180L				370		312				170	1363	1150	450	125									182	53	320							
		200L				426		364				180	1458	1200	450	150									445	400	295	56	436					
EVP 100B	A	112M	Ø 100	Ø 80	100	200.5	338	206	560	550	300	225	1040	950	600	175	410	365	50	100	120	28	19	85	39	46	170							
		132S				239		229				230	1102	1000	600	200									56	48	189							
		132M				258		229				235	1140	1000	600	200									70	48	203							
	B	160M				323		294				155	1246	1150	450	125									109	51	245							
		160L				345		294				155	1290	1150	450	125									136	51	272							
		180M				351		317				175	1318	1200	450	150									161	53	299							
		180L				370		312				175	1378	1200	450	150									182	53	320							

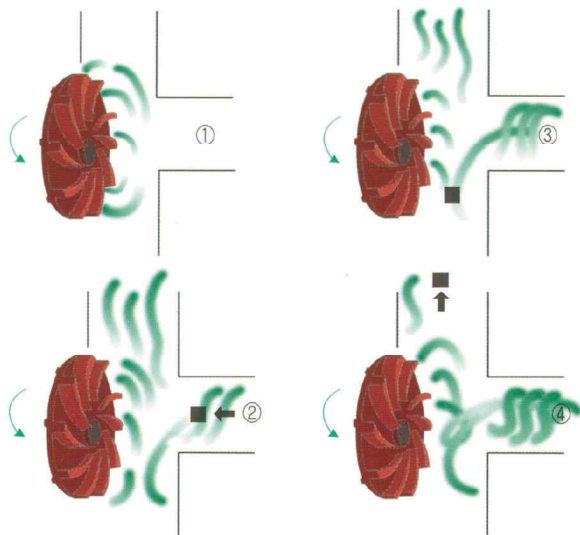
EVP

• Dimensions for the standard unit driven by ICE standard motor.

TYPE	FIG	MOTOR FRAME NO.	BORE		PUMP & MOTOR DIMENSIONS(MM)										BASE PLATE DIMENSIONS(MM)										WEIGHT(KG)			
			SUC.	DIS.	A	B	D	K	R	T	U	V	W	Ba	Bb	Bc	Bd	Be	Bf	Bg	Bh	Bj	Bz	PUMP	MOTOR	BASE	TOTAL	
EVP100C	A	100L	Ø 100	Ø 80	120	193	398	196	550	625	345	205	1045	950	600	175	435	390	50	100	120	28	19	85	30	41	156	
		112M				200.5		206				205	1050	950	600	175									39	41	165	
		132S				239		229				230	1112	1000	600	200									56	43	184	
		132M				258		229				240	1150	1000	600	200									70	43	198	
	B	160M	323	294	155	1256	1150	450	125	109	53	247																
		160L	345	294	155	1300	1150	450	125	136	53	274																
EVP100C	B	180M	Ø 100	Ø 80	120	351	398	317	550	625	345	180	1328	1200	450	150	435	390	50	100	120	28	19	85	161	58	304	
		180L				370		312				180	1388	1200	450	150									182	58	325	
EVP125B	B	132S	Ø 125	Ø 100	125	239	358	229	580	600	320	165	1147	1050	400	125	410	365	50	100	120	28	19	98	56	47	201	
		132M				258		229				165	1185	1050	400	125									70	47	215	
		160M				323		294				190	1291	1200	450	150									109	53	260	
		160L				345		294				190	1335	1200	450	150									136	53	287	
		180M				351		317		630	350	165	1363	1250	500	125	440	380	65	130	150	30	23		161	82	341	
		180L				370		312				165	1423	1250	500	125									182	82	362	
		200L				425.5		364				190	1518	1300	500	150									295	86	479	
EVP150B	B	132S	Ø 125	Ø 100	140	239	403	229	600	685	370	180	1182	1050	400	125	440	395	50	100	120	28	19	114	56	49	219	
		132M				258		229				180	1220	1050	400	125									70	49	233	
		160M				323		294				205	1326	1200	450	150									109	56	279	
		160L				345		294				205	1370	1200	450	150									136	56	306	
		180M				351		317		715	400	180	1398	1250	500	125	470	410	65	130	150	30	23		161	84	359	
		180L				370		312				180	1458	1250	500	125									182	84	380	
		200L				425.5		364				205	1553	1300	500	150									295	88	497	
		225S				432		-				230	1568	1350	500	175									365	94	573	

• 치수는 참고용임

볼텍스 펌프의 원리 / Principle of the vortex pump



볼텍스 펌프는 볼텍스의 원리에 따라 운전된다.

볼류트 뒤쪽으로 물려나 있는 동바란스 된 다익 임펠러에 의해 유체()가 소용돌이치게 되고, 이 소용돌이가 입구()까지 이어지면서 입자()를 유동() 속으로 끌어들이는다. 입자()는 케이싱 내()에서 고속() 소용돌이 속에 합류()된다.

형성()된 볼텍스 작용()은 유체()와 유체()에 포함되어 펌프케이싱 볼류트 영역으로 들어오는 고형물질()의 흐름을 정류()한다.

대부분의 액체는 임펠러와 접촉되지 않은 상태로 케이싱 내()의 주류()에 포착되며 이내 원심력에 의해서 밀려나 토출된다.

The vortex pump operates on the vortex principle. The multi-vaned dynamically balanced impeller, which is recessed and completely removed from the volute area, sets the fluid whirling, or circular motion which extends into the suction opening and draws particles into the moving stream, and the particles swirl into the fast moving vortng vortex within the pump casing.

The created vortex action directs the flow of both the liquid and entrained solids entering the pump into the volute area.

The majority of the liquid does not contact the impeller but is caught up in the main stream of the casing and by the action of the centrifugal force they are forced out discharged.