

Features

- The motor and the pump are integrated for smaller sizes and lighter weights.
- The self-priming function and floor mount offer a wider choice of installation locations, not limited to the top of tank.
- The lineup including the models complying with global standards by supporting efficiency and other regulations.
Japan : Top Runner efficiency
Europe : IE3 efficiency, CE marking (EU Directive)
RoHS Directive (2011/65/EU) , 10 substances restricted*
USA : NEMA Premium efficiency (IE3 efficiency), UL standards (safety)
China : GB3 (GB18613-2020)
- The lineup that includes both VKN-A type (flow type) and VKN-H type (pressure type) broadens the scope of choices of heads and flow rates.
VKN-H type offers approximately 30% more pressure than VKN-A type.

* Excluding the types that end with "L."



Please note that the paint color, etc. of the actual unit may partially differ from the photo.

Description of types

VKN 07 5 A

① ② ③ ④ ⑤

- Model
- Output (04:40W, 05:60W, 06:100W, 07:180W, 08:250W, 09:400W, 11:750W)
- Series number
- Characteristics L : flow type / cabtyre cable used
A : flow type
H : pressure type
- Motor efficiency/ voltage
None : Standard efficiency (equivalent to IE1) / Standard voltage
-e : Top Runner efficiency (equivalent to IE3) / Standard voltage
-4Z : Standard efficiency (equivalent to IE1) / Different voltage
-4Z-e : Top Runner efficiency (equivalent to IE3) / Different voltage
-7W : UL approved motor (750W is NEMA Premium efficiency)

Global standards

Type	Standards/Regulations	Output		
		40W-250W	400W	750W
VKN	IE1 equivalent	●	●	●
	CE Marking	● ^{*1}	●	●
	EU energy efficiency	—	●	●
	GB3(GB18613-2020)	—	●	—
VKN-e	Top Runner efficiency (IE3 equivalent)	—		●
	CE Marking			●
	EU energy efficiency			●
	GB3(GB18613-2020)			● ^{*2}
VKN-7W	NEMA Premium efficiency	—	—	●
	UL Standards (safety)	●	●	●

*1 Excluding the types that end with "L."

*2 GB certification label is attached as exclusive for GB standard. ● : Compliant — : Ineligible

Standard Specification

Used liquid	Property of liquid	Grinding liquid, cutting liquid, etc.*1
	Temperature	40° C or less (No frozen liquid)
	Allowable kinematic viscosity	VKN-A 50Hz : 200mm ² /s 60Hz : 75mm ² /s VKN-H 50/60Hz : 37.5mm ² /s
Installation location		Indoor Ambient temperature: 0 to 40 °C, RH 85% or below (no condensation). Height above sea level : 1000m or less, Place not exposed to direct sunlight. Place in an area free of corrosive or explosive gas or vapor.
Material	Casing	FC150
	Impeller	CAC407 or Special resins Refer to the table of impeller materials.
	Main shaft	S45C
Shaft seal structure		Mechanical seal
Motor	Power source	3-phase 50/60/60 Hz, 200/200/220 V ^{*2}
	Type	Output 0.25kW or less: Totally enclosed self-cooled type Output 0.4kW or more: Totally enclosed fan-cooled indoor type
	Protection method	Refer to the specification table.
	Thermal class	Refer to the specification table.
	Rating	Continuous
	Number of poles	2P
	Standard	IEC60034-1 CE marking ^{*3}
Paint color		Munsell N1

*1 Take note that the unit is not used for water and special liquids such as printing and acidic liquids. Contact us when using the unit for other special liquids (ceramic, etc.).

*2 (Standard specification) different voltage: 50/50/50/60/60Hz, 380/400/415/400/440V, NEMA Premium efficiency (IE3), UL Standards (safety): 60Hz, 208/230/460V, GB18613-2020: 3-phase 50Hz 200V, 50Hz 380V

*3 Excluding -7W type and the types that end with "L."

List of Consumable Parts

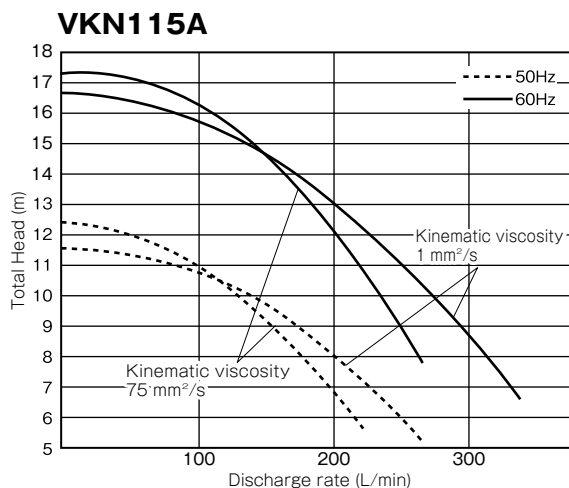
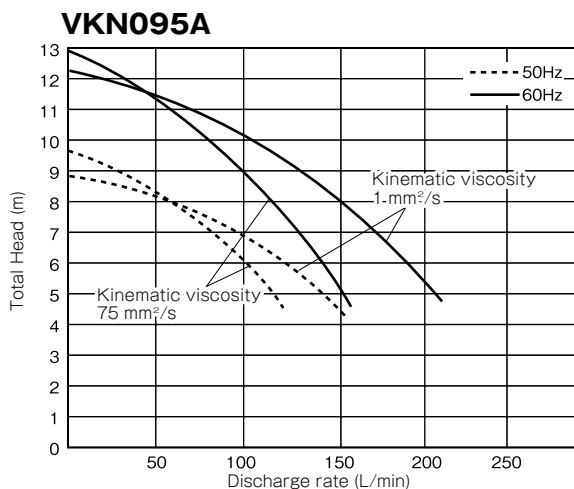
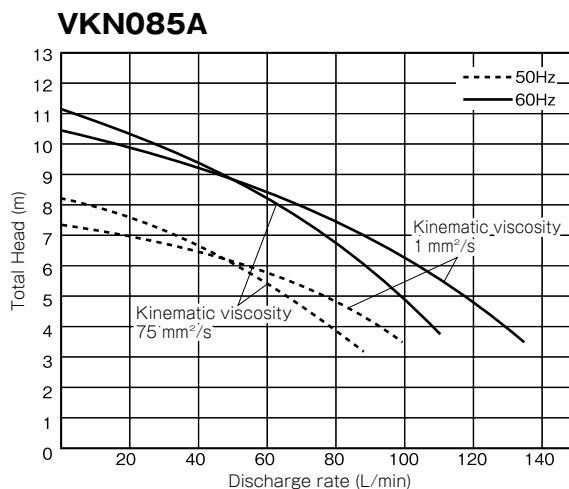
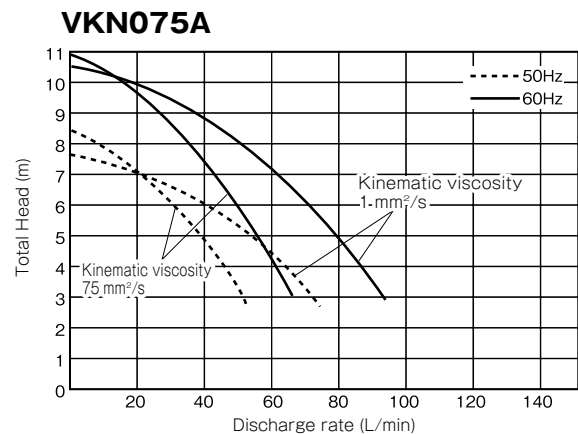
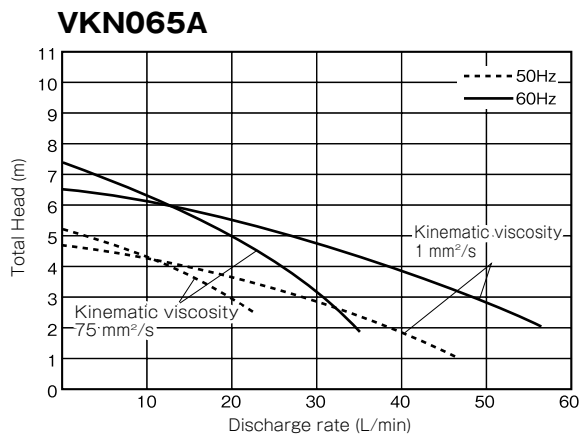
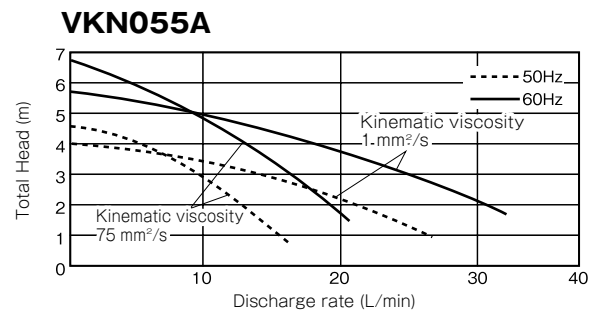
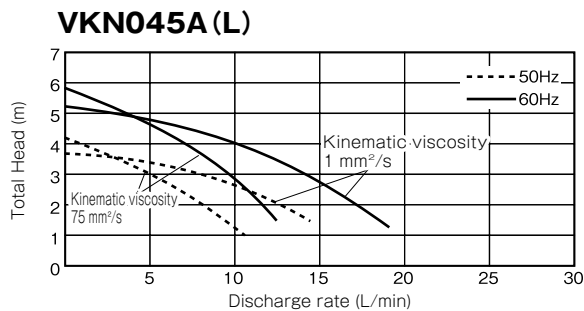
Type	Bearing		O-ring for casing
	Load side	Unload side	
VKN045L	6200ZZ	6200ZZ	—
VKN045A (-4Z/7W)	6200ZZ	6200ZZ	—
VKN055A (-4Z/7W)	6200ZZ	6200ZZ	—
VKN065A (-4Z/7W)	6200ZZ	6200ZZ	—
VKN075A (-4Z/7W)	6202ZZ	6200ZZ	—
VKN085A (-4Z/7W)	6202ZZ	6200ZZ	—
VKN095A (-4Z/7W)	6203ZZ	6202ZZ	—
VKN115A (-e/4Z/7W)	6305ZZ	6203ZZ	G165-N
VKN055H	6200ZZ	6200ZZ	—
VKN065H (-7W)	6200ZZ	6200ZZ	—
VKN075H	6202ZZ	6200ZZ	—
VKN085H	6202ZZ	6200ZZ	—
VKN095H (-7W)	6203ZZ	6202ZZ	—

■ Selection chart

● VKN-A

(Values at kinematic viscosity $1\text{ mm}^2/\text{s}$, specific gravity 1)
(Values at kinematic viscosity $75\text{ mm}^2/\text{s}$, specific gravity 1)

Synchronous rotating speed 50Hz : 3000 min^{-1}
60Hz : 3600 min^{-1}



※ Above selection chart is also available for -e/-4Z/-7W type.

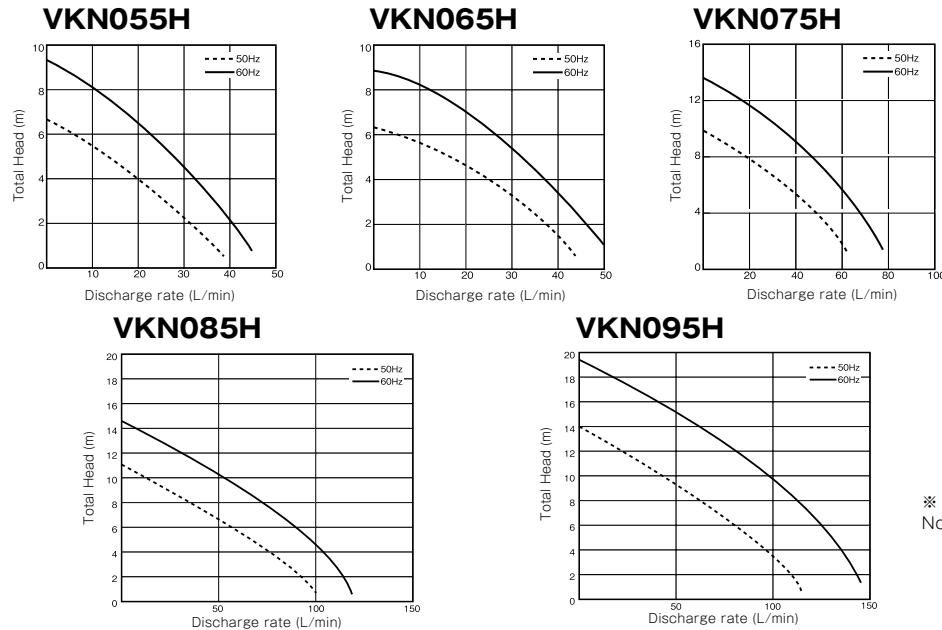
Note) Take note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid.

Selection chart

(Values at kinematic viscosity 1mm²/s, specific gravity 1)

Synchronous rotating speed 50Hz : 3000min⁻¹
60Hz : 3600min⁻¹

●VKN-H



※ This also applies to -7W type.
Note) Take note that discharge rate varies considerably depending on the type and kinematic viscosity of liquid.

Specification table

●VKN-A

Bore diameter (Fp)	Type	Output (W)	50Hz					60Hz					Max. length of suction pipe	Protection method	Thermal class	
			Rated voltage (V)	Rated current (A)	Discharge current (A)	Discharge rate (L/min)	Total Head (m)	Rated voltage (V)	Rated current (A)	Discharge current (A)	Discharge rate (L/min)	Total Head (m)				
1/4	VKN045L* VKN045A	40	200	0.32	1.38	13	1.5	200/220	0.31/0.31	1.24/1.36	16	1.5	0.7	IP23	B	
	VKN045A-4Z		380/400/415	0.16/0.16/0.17	0.6/0.7/0.7			400/440	0.16/0.16	0.6/0.7						
	VKN045A-7W		208/230/460					0.28/0.29/0.15	1.3/1.5/0.75							
3/8	VKN055A	60	200	0.4	1.73	16	2	200/220	0.35/0.35	1.75/1.67	24	2	0.7	IP54		
	VKN055A-4Z		380/400/415	0.19/0.20/0.22	0.8/0.9/0.9			400/440	0.18/0.18	0.7/0.8						
	VKN055A-7W	208/230/460					0.39/0.38/0.19	1.8/2.0/1.0	50	2	0.7					
	VKN065A	200	0.55	2.67	39	2	200/220	0.5/0.5				2.33/2.56				
	VKN065A-4Z	380/400/415	0.28/0.28/0.29	1.2/1.3/1.3			400/440	0.25/0.25				1.1/1.3				
	VKN065A-7W	208/230/460					0.56/0.55/0.28	3.0/3.3/1.7								
1/2	VKN075A	180	200	0.85	5.86	50	3	200/220	1.0/1.0	5.52/6.08	67	3	0.7	IP54		
	VKN075A-4Z		380/400/415	0.44/0.43/0.42	2.0/2.1/2.1			400/440	0.5/0.5	1.9/2.1						
	VKN075A-7W		208/230/460					1.0/0.95/0.48	5.4/6.0/3.0							
3/4	VKN085A	250	200	1.2	8.79	95	4	200/220	1.5/1.5	8.26/9.09	130	4	0.6	IP54		
	VKN085A-4Z		380/400/415	0.65/0.6/0.6	2.9/3.1/3.2			400/440	0.75/0.75	2.9/3.2						
	VKN085A-7W		208/230/460					1.4/1.3/0.65	10.1/10.7/5.4							
1	VKN095A	400	200	2.4	11.0	140	5	200/220	2.5/2.4	10.0/11.0	200	5	0.7	IP54		
	VKN095A-4Z		380/400/415	1.2/1.2/1.2	5.2/5.5/5.7			400/440	1.3/1.2	5.0/5.5						
	VKN095A-7W		208/230/460					2.3/2.2/1.1	13.4/15.2/7.6							
1 1/2	VKN115A	750	200	3.3	25.7	230	7	200/220	4.5/4.2	23.3/25.7	320	7	0.7	IP54		
	VKN115A-e		200	3.3	29.0			200/220	4.5/4.2	28.0/30.0						
	VKN115A-4Z		380/400/415	1.7/1.7/1.7	11.1/11.7/12.1			400/440	2.3/2.1	11.1/12.7						
	VKN115A-4Z-e		380/400/415	1.7/1.7/1.7	13.5/14.5/15.3			400/440	2.3/2.3	14.0/15.0						
	VKN115A-7W		208/230/460					4.2/3.9/1.9	28.8/32.0/16.0							
	VKN115A-7W															

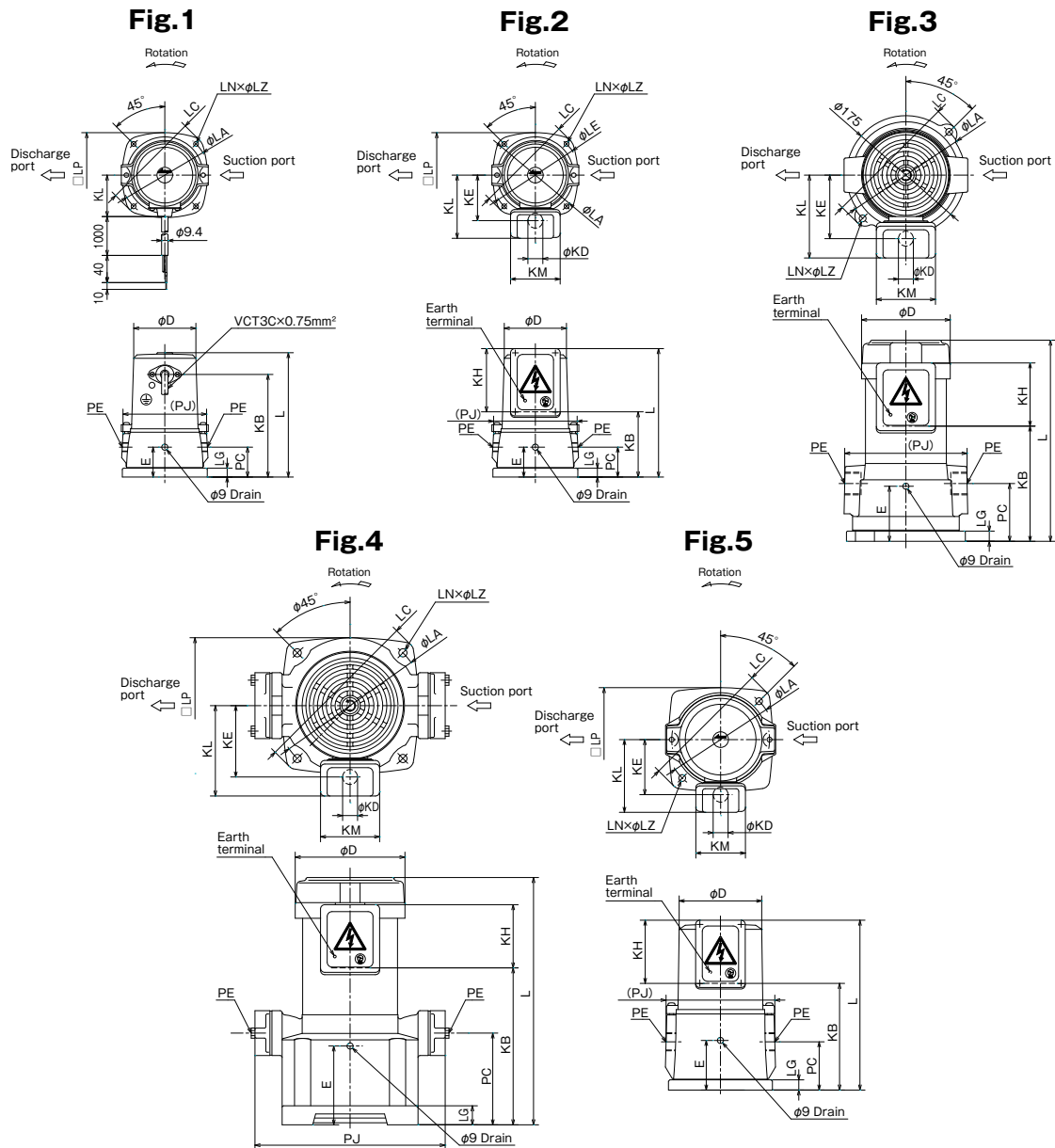
Notes 1) Since VKN045L has cabtyre cable, it does not comply with CE Marking. In addition it does not comply with RoHS Directive (2011/65/EU), which restricting 10 substances. The protection method is IP23.
Notes 2) The discharge rate and total head values were obtained in tests with a liquid kinematic viscosity of 1 mm²/s (same as fresh water at normal temperature). Take note that the pumps cannot be used with water.

●VKN-H

Bore diameter (Rp)	Type	Output (W)	50Hz					60Hz					Max. length of suction pipe	Protection method	Thermal class	
			Rated voltage (V)	Rated current (A)	Discharge current (A)	Discharge rate (L/min)	Total Head (m)	Rated voltage (V)	Rated current (A)	Discharge current (A)	Discharge rate (L/min)	Total Head (m)				
3/8	VKN055H	60	200	0.42	1.73	10	4.5	200/220	0.55/0.52	1.75/1.67	10	7	0.7	IP54	B	
	VKN065H	100	200	0.55	5.86	10	5	200/220	0.6/0.6	5.52/6.08		7.5	0.7			
	VKN065H-7W		208/230/460					0.56/0.55/0.28	3.0/3.3/1.7							
1/2	VKN075H	180	200	0.9	8.79	20	7	200/220	1.2/1.1	8.26/9.09	20	11	0.7			
3/4	VKN085H	250	200	1.2	8.79	20	8	200/220	1.5/1.5	8.26/9.09		12	0.6			
1	VKN095H	400	200	2.4	11.0	20	12	200/220	2.5/2.4	10.0/11.0		17	0.6			
	VKN095H-7W		208/230/460					2.3/2.2/1.1	13.4/15.2/7.6							F

Note) The discharge rate and total head values were obtained in tests with a liquid kinematic viscosity of 1 mm²/s (same as fresh water at normal temperature). Take note that the pumps cannot be used with water.

■ Assembly drawing



■ Dimensions

●VKN-A

(Unit : mm)

Type	Fig.	D	E	KB	KD	KE	KH	KL	KM	L	LA	LC	LE	LG	LN	LP	LZ	PC	PE	PJ	Approx. mass(kg)
VKN045L	1	92	44	151	—	—	—	61	—	183	130	145	—	13	4	125	7	44	Rp1/4	123	4.6
VKN045A(-4Z/7W)	2	92	44	96	22	67	93	93	73	189	130	145	—	13	4	125	7	44	Rp1/4	123	4.5
VKN055A(-4Z/7W)	2	92	57	119	22	67	93	93	73	212	130	169	132	14	4	131	7	56	Rp3/8	132	6.5
VKN065A(-4Z/7W)	2	92	57	119	22	67	93	93	73	212	150	169	132	14	4	131	7	56	Rp3/8	132	7.5
VKN075A(-4Z/7W)	2	111	61	143	22	78	93	104	73	236	164	194	160	15	4	153	10	63	Rp1/2	150	11.0
VKN085A(-4Z/7W)	2	122	73	157	22	81	93	107	73	250	170	194	160	15	4	153	10	71	Rp3/4	160	12.5
VKN095A(-4Z/7W)	3	131	81	169	22	94	93	122	87	296	180	200	—	15	2	—	10	85	Rp1	180	14.0
VKN115A(-4Z)	4	162	116	231	22	105	93	133	87	364	220	253	—	28	4	200	12	135	Rp1 1/2	280	23.0
VKN115A-e(-4Z/7W)	4	162	116	231	22	105	93	133	87	364	220	253	—	28	4	200	12	135	Rp1 1/2	280	24.0

●VKN-H

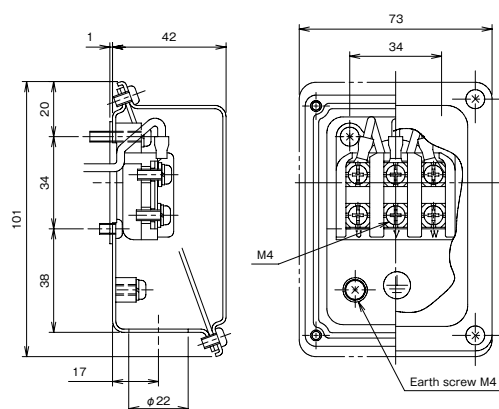
(Unit : mm)

Type	Fig.	D	E	KB	KD	KE	KH	KL	KM	L	LA	LC	LG	LN	LP	LZ	PC	PE	PJ	Approx. mass(kg)
VKN055H	5	92	57	119	22	67	93	93	73	212	132	169	14	2	131	7	56	Rp3/8	132	6.5
VKN065H(-7W)	5	92	57	119	22	67	93	93	73	212	132	169	14	2	131	7	56	Rp3/8	132	7.5
VKN075H	5	111	61	143	22	78	93	104	73	236	160	194	15	2	153	10	63	Rp1/2	150	11.0
VKN085H	5	122	73	157	22	81	93	107	73	250	160	194	15	2	153	10	71	Rp3/4	160	12.5
VKN095H(-7W)	3	131	81	169	22	94	93	122	87	296	180	200	15	2	—	10	85	Rp1	180	14.0

Detailed drawing of the terminal box

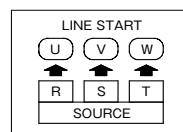
●VKN045A-085A (-4Z), VKN055H-085H

■Assembly drawing



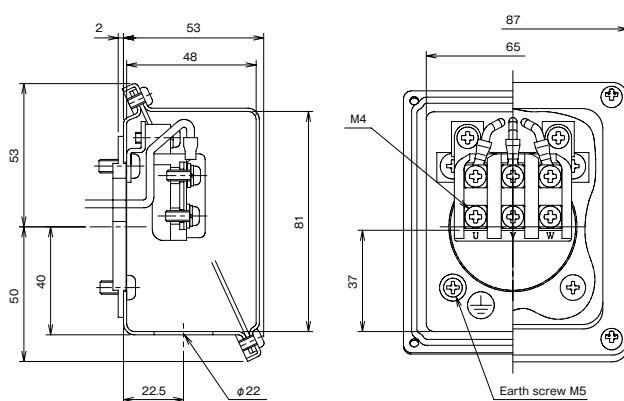
※ For the types that end with "L," cabtyre cable is used.

■Connection diagram

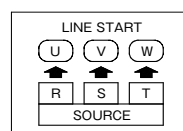


●VKN095□ (-4Z), 115A (-e/4Z)

■Assembly drawing

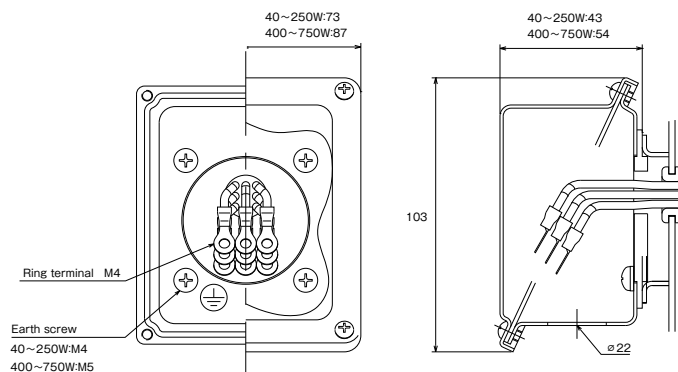


■Connection diagram

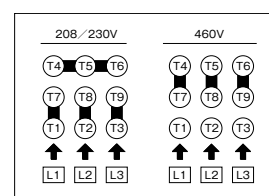


●VKN-7W

■Assembly drawing

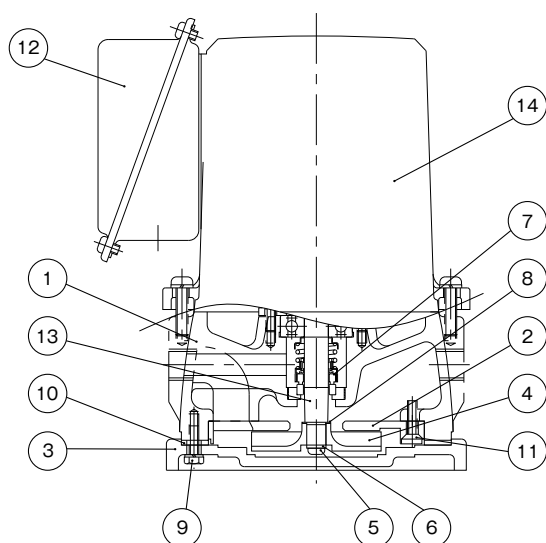


■Connection diagram



Sectional drawing

●VKN045L, VKN045A-085A (-4Z/7W), VKN055H-085H (-7W)



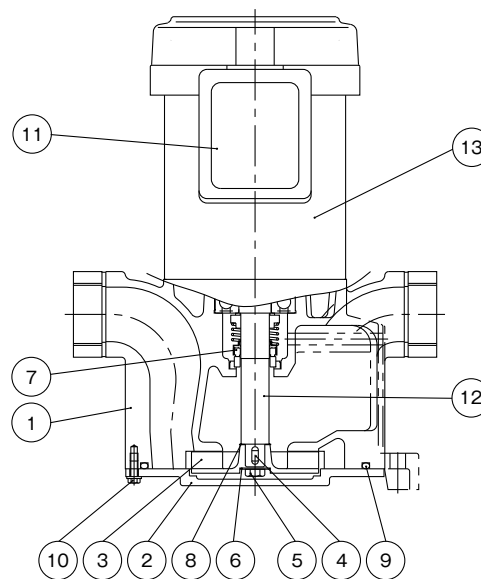
No.	Part name	Material	No.	Part name	Material
1	Casing	FC150	8	Adjust seal	BsP3-1/2H
2	Inner casing	FC150	9	Hexagon head screw with captive washer	SUS302
3	Bottom plate	FC150	10	Packing	NBR
4	Impeller	Refer to the table below	11	Flat head screw	SS
5	Pan head machine screw	SS	12	Terminal box	SPCC
6	Toothed washer	SK5	13	Main shaft	S45C
7	Mechanical seal	Ceramic vs carbon	14	Motor	—

Note 1) VKN045L has cabtyre cable.

Note 2) The materials in the table above are equivalents.

Note 3) Structure and other details are subject to change without notice.

●VKN115A (-e/4Z/7W)



No.	Part name	Material	No.	Part name	Material
1	Casing	FC150	8	Adjust seal	BsP3-1/2H
2	Bottom plate	FC150			Phosphor bronze
3	Impeller	CAC407	9	O ring	NBR
4	Key	S45C	10	Hexagon head screw with captive washer	SUS302
5	Hexagon bolt	SS	11	Terminal box	SPCC
6	Toothed washer	SK5	12	Main shaft	S45C
7	Mechanical seal	Ceramic vs carbon	13	Motor	—

Note 1) The materials in the table above are equivalents.

Note 2) Structure and other details are subject to change without notice.

Table of impeller materials

●VKN-A

Type	Impeller material
VKN045L	CAC407
VKN045A (-4Z/7W)	CAC407
VKN055A (-4Z/7W)	CAC407
VKN065A (-4Z/7W)	CAC407
VKN075A (-4Z/7W)	Special resins
VKN085A (-4Z/7W)	Special resins
VKN095A (-4Z/7W)	Special resins
VKN115A (-e/4Z/7W)	CAC407

●VKN-H

Type	Impeller material
VKN055H	CAC407
VKN065H (-7W)	CAC407
VKN075H	CAC407
VKN085H	CAC407
VKN095H (-7W)	CAC407