

# ELECTRIC FLANGE HEATER

## Board flange heater P series

The heater which heats water, oil, cleaning fluid

It is can attached without using a special tool and jig because of standard flange. There is not the worry of the leak compare with heater that include screw while using to liquid with the osmosis. It is used for internal pressure and the vapor pressure in the liquid, the place where mechanical pressure increases. But the PLK5 type is only for water heating.



### ●Specification

- 1)Power supply : Three phase 200V
- 2)Size : Body size(L) The allowance is +0mm, -10mm Non-heating part (Ln) 60mm PLK5 type Non-heating part (Ln) 40mm
- 3)Material : Flange SUS304 JIS 5K 40A, 50A  
Heater SUS316L  $\phi 9$ ,  $\phi 12$  Surface polishing  
Cap Phenolic resin Standard type

### ●Purpose

- 1)The liquid heating that the materials of mention are not corroded with water, oil, cleaning liquid.

### ●Square shape flange heater

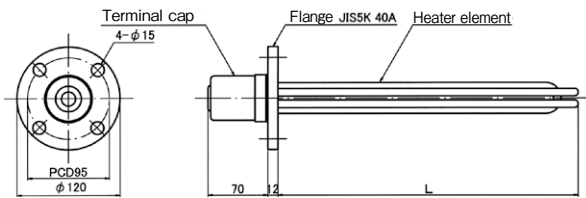
Please choose a square shape flange heater, If there is no space by Square shape tank. The cases that it is attached to the bottom of the tank and want to use the tank for effectively. (Square sharp flange heater is Order design · workmanship.)

### ●Board flange heater of the many number constitution

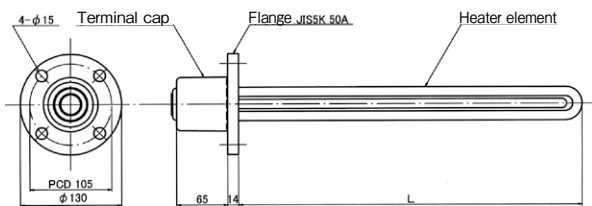
Solution to the problem by using board flange heater of the many number constitution. A case of installation point one place, and for there is not the depth of the tank.

Sheathed heater is constituted in combination by the flange of the standard.

We can customize capacity and length by incorporating the number of the heater from 6, 9, 12 etc.



PL4



PL5

### Flange heater P series Form table

P	L	K	5	3	2	16	WP
							WP : Waterproof cap (Special order product)
							16 : Body size 160mm
							2 : 2kW
							3 : Three phase 200V 2: Single phase 200V
							1 : Single phase 100V
							5 : Flange size
							5 : 50A 4 : 40A
							K : Compact flange heater
							L : JIS5KH : JIS10K(SUSF304)
							P : Board flange heater

### The choice of the board flange

Nominal diameter A	JIS 5K Flange					JIS 10K Flange				
	Outline	P.C.D.	Thickness	Pore diameter	Number of holes	Outline	P.C.D.	Thickness	Pore diameter	Number of holes
	D	C	t	h $\phi$	n	D	C	t	h $\phi$	n
40	120	95	12	15	4	140	105	16	19	4
50	130	105	14	15	4	155	120	16	19	4
65	155	130	14	15	4	175	140	18	19	4
80	180	145	14	19	4	185	150	18	19	8
100	200	165	16	19	8	210	175	18	19	8
150	265	230	18	19	8	280	240	22	23	8
200	320	280	20	23	8	330	290	22	23	12

### Reference standard

Capacity (kW)	Flange size	Body size (mm)	Heating part (mm)	Heater number
8	100A	550	450	6
20	150A	650	550	12
35	150A	1100	1000	12
40	200A	850	750	18
60	200A	1250	1150	18
70	250A	1100	1000	24
120	300A	1200	1100	36

### Relations with water temperature and the heater surface temperature

Water temperature (°C)	Watt density (W/cm <sup>2</sup> )				
	2	3	4	5	6
30	34°C	37°C	41°C	46°C	51°C
40	47°C	48°C	53°C	60°C	65°C
50	—	57°C	63°C	65°C	68°C
60	—	66°C	67°C	68°C	69°C
70	—	71°C	74°C	76°C	78°C
80	—	84°C	86°C	87°C	88°C
90	—	95°C	96°C	97°C	98°C

# ELECTRIC FLANG HEATER

## Board flange heater P series

### PLK type

Model	Capacity (kW)	Body (mm)	Weight (kg)	Code No.
PLK5-32-16WP	2	160	2.0	A270700100
PLK5-33-16WP	3	160	2.0	A270700102
PLK5-33-21WP	3	210	2.2	A270700103
PLK5-34-21WP	4	210	2.2	A270700104
PLK5-34-26WP	4	260	2.3	A270700105
PLK5-35-26WP	5	260	2.3	A270700106
PLK5-35-31WP	5	310	2.5	A270700107
PLK5-310-41WP	10	410	2.8	A270700108
PLK5-310-51WP	10	510	3.0	A270700109
PLK5-315-61WP	15	610	3.3	A270700110
PLK5-315-71WP	15	710	3.6	A270700111

### PL4 type

Model	Capacity (kW)	Body (mm)	Weight (kg)	Code No.
PL4-3140WP	1	200	1.5	A270700046
PL4-3130WP	1	250	1.6	A270700047
PL4-3125WP	1	290	1.7	A270700048
PL4-31.560WP	1.5	200	1.5	A270700049
PL4-31.550WP	1.5	230	1.6	A270700050
PL4-31.545WP	1.5	250	1.6	A270700053
PL4-31.540WP	1.5	280	1.7	A270700054
PL4-31.530WP	1.5	350	1.8	A270700055
PL4-31.525WP	1.5	410	1.9	A270700056
PL4-3280WP	2	200	1.5	A270700057
PL4-3270WP	2	220	1.6	A270700058
PL4-3260WP	2	250	1.6	A270700059
PL4-3250WP	2	290	1.7	A270700060
PL4-3245WP	2	320	1.7	A270700061
PL4-3240WP	2	350	1.8	A270700044
PL4-3230WP	2	440	2.0	A270700045

### PL5 type

Model	Capacity (kW)	Body (mm)	Weight (kg)	Code No.
PL5-3125WP	1	240	2.2	A270700027
PL5-31.540WP	1.5	210	2.2	A270700028
PL5-31.530WP	1.5	280	2.4	A270700029
PL5-31.525WP	1.5	330	2.5	A270700030
PL5-3250WP	2	230	2.2	A270700031
PL5-3245WP	2	240	2.2	A270700032
PL5-3240WP	2	280	2.4	A270700019
PL5-3230WP	2	360	2.6	A270700033
PL5-3225WP	2	410	2.8	A270700034
PL5-3380WP	3	210	2.2	A270700035
PL5-3370WP	3	240	2.2	A270700036
PL5-3360WP	3	280	2.4	A270700037
PL5-3350WP	3	330	2.5	A270700009
PL5-3345WP	3	360	2.6	A270700038
PL5-3340WP	3	410	2.8	A270700101
PL5-3330WP	3	510	3.0	A270700022
PL5-3325WP	3	590	3.3	A270700039
PL5-3480WP	4	280	2.4	A270700040
PL5-3470WP	4	310	2.5	A270700041
PL5-3460WP	4	360	2.6	A270700043
PL5-3450WP	4	430	2.8	A270700044
PL5-3445WP	4	460	2.9	A270700045
PL5-3440WP	4	510	3.0	A270700046

### PL4 type

Model	Capacity (kW)	Body (mm)	Weight (kg)	Code No.
PL4-3225WP	2	520	2.1	A270700040
PL4-3380WP	3	280	1.7	A270700062
PL4-3370WP	3	300	1.7	A270700063
PL4-3360WP	3	350	1.8	A270700044
PL4-3350WP	3	410	1.9	A270700064
PL4-3345WP	3	450	2.0	A270700065
PL4-3340WP	3	500	2.1	A270700066
PL4-3330WP	3	640	2.3	A270700067
PL4-3325WP	3	760	2.5	A270700068
PL4-3480WP	4	350	1.8	A270700069
PL4-3470WP	4	390	1.9	A270700070
PL4-3460WP	4	450	2.0	A270700073
PL4-3450WP	4	530	2.1	A270700074
PL4-3445WP	4	580	2.2	A270700075
PL4-3440WP	4	640	2.3	A270700076
PL4-3430WP	4	840	2.7	A270700077
PL4-3580WP	5	420	1.9	A270700078
PL4-3570WP	5	470	2.0	A270700079
PL4-3560WP	5	550	2.2	A270700080
PL4-3550WP	5	650	2.3	A270700081
PL4-3545WP	5	710	2.4	A270700082
PL4-3540WP	5	790	2.6	A270700083
PL4-3680WP	6	500	2.1	A270700084
PL4-3670WP	6	560	2.2	A270700085
PL4-3660WP	6	650	2.3	A270700086
PL4-3650WP	6	770	2.6	A270700087
PL4-3645WP	6	840	2.7	A270700088
PL4-3640WP	6	940	2.9	A270700089
PL4-3780WP	7	570	2.2	A270700090
PL4-3770WP	7	640	2.3	A270700092
PL4-3760WP	7	750	2.5	A270700093
PL4-3750WP	7	880	2.8	A270700094
PL4-3745WP	7	970	2.9	A270700095

Model	Capacity (kW)	Body (mm)	Weight (kg)	Code No.
PL5-3430WP	4	650	3.5	A270700016
PL5-3425WP	4	770	3.8	A270700017
PL5-3580WP	5	350	2.6	A270700018
PL5-3570WP	5	380	2.7	A270700019
PL5-3560WP	5	440	2.8	A270700021
PL5-3555WP	5	480	3.0	A270700024
PL5-3550WP	5	510	3.0	A270700025
PL5-3545WP	5	560	3.2	A270700026
PL5-3540WP	5	610	3.3	A270700027
PL5-3530WP	5	810	3.9	A270700028
PL5-3525WP	5	900	4.2	A270700029
PL5-3680WP	6	410	2.8	A270700030
PL5-3670WP	6	440	2.8	A270700031
PL5-3660WP	6	510	3.0	A270700032
PL5-3650WP	6	610	3.3	A270700033
PL5-3645WP	6	650	3.5	A270700034
PL5-3640WP	6	710	3.6	A270700035
PL5-3630WP	6	960	4.4	A270700036
PL5-3780WP	7	460	2.9	A270700037
PL5-3770WP	7	510	3.0	A270700038
PL5-3760WP	7	610	3.3	A270700039
PL5-3750WP	7	710	3.6	A270700096
PL5-3745WP	7	770	3.8	A270700097
PL5-3740WP	7	850	4.1	A270700098