

# Flat heaters type F

Galvatherm®

Installation on the side or at the bottom

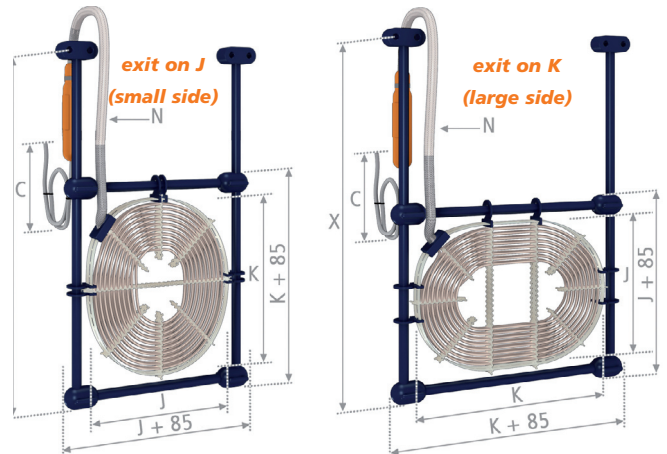
**Universal model for all types of installation such as side of tank, bottom of tank with feet or on slidings. Rigid structure ideal for important powers.**

*Assembly type convenient for immersion heaters with reference P30 (thickness 30 mm) , P40 (thickness 40 mm) , P90 (thickness 100 mm)*

This modular assembly type provides a satisfactory installation of the heaters in all situations. The cable is rolled up according dimensions & shapes proposed and held with PVDF, PP or FEP strips which ensure the right distance between the rolls. To secure completely the heating part it is then mounted on a rigid rod structure in PVDF or PP.

The heater is secured on the rod structure by clips which, whenever needed, make the removal of the heating part easier.

**Warning :** The reference table of the flat heaters (next pages) does not give the overall dimensions of the F range assembly type : 85 mm  $\pm$ 10 mm must be added to each length and width.



**Maximum X length = 1800 mm**

**Electric safety :** the Galvatherm heater complies with protection class 1 of EN 60519-1/2. The cable is screened throughout the entire length by a copper earthing strip. The earthing must be connected to the earth. In order to provide maximum safety, a fault-current (FI) protection device (30mA) should be used.

**On a rigid plastic rod frame  
Ø20 mm, PVDF or PP**

## Options and Accessories

The Galvatherm heater is only planned to heat liquids.

### Extra length of cables



**Electrical connecting cable C**  
of type H05 VV-F (PVC) or H07 RN-F (Neopren)

**Non heating cable N**  
to go out of the tank

### Removable guard



**Perforated plastic guard**  
PP ou PVDF

Ref in PP : PRPPP  
Ref in PVDF : PRPPF

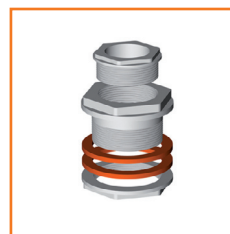
### Feet for type F



**Standard height 100 mm**  
Other heights possible  
For installation at the bottom of the tank.

Ref in PP : PIPP4-100  
Ref in PVDF : PIPF4-100

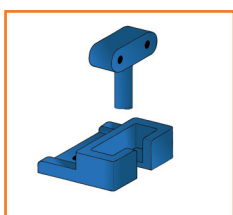
### Cable-gland Ø75 mm



Allow between 200 to 300 mm extra on the H length (H=installation height on N)

Ref in PP : PEPP  
Ref in PVDF : PEPF

### Frame supports



**Frame supports**  
PP or PVDF, to fix on the edge of the tank

Réf in PP : SUPP  
Réf in PVDF : SUPF



# Flat heaters, reference numbers

Galvatherm®

The table below informs on the dimensions of the heating part and its references.  
 The reference number begins by P30, P40 or P90. These codes indicate the thickness 's device.  
 P30 = thickness 30 mm / P40 = 40 mm / P90 = 100 mm  
 All dimensions are given with a tolerance of  $\pm 10$  mm.  
 Standard cable coating : FEP single layer. For other coatings please contact us.

## SINGLE-PHASE IMMERSION HEATERS

KW	J x K	230V sg-ph	KW	J x K	230V sg-ph	
0.5 kW	150 x 375	P30 03 05 2	4 kW	225 x 880	P30 07 40 2	
	170 x 265	P30 04 05 2		260 x 700	P30 09 40 2	
	185 x 210	P30 05 05 2		315 x 545	P30 12 40 2	
	165 x 230	P40 03 05 2		330 x 515	P30 13 40 2	
1 kW	150 x 605	P30 03 10 2		350 x 475	P30 14 40 2	
	170 x 520	P30 04 10 2		385 x 435	P30 16 40 2	
	185 x 365	P30 05 10 2		405 x 420	P30 17 40 2	
	205 x 335	P30 06 10 2		205 x 810	P40 05 40 2	
	220 x 290	P30 07 10 2		225 x 685	P40 06 40 2	
	240 x 250	P30 08 10 2		245 x 595	P40 07 40 2	
	165 x 395	P40 03 10 2		285 x 475	P40 09 40 2	
	185 x 305	P40 04 10 2		310 x 435	P40 10 40 2	
	205 x 255	P40 05 10 2		325 x 400	P40 11 40 2	
	225 x 230	P40 06 10 2		345 x 375	P40 12 40 2	
1.5 kW	165 x 680	P30 04 15 2	6 kW	275 x 990	P30 10 60 2	
	205 x 425	P30 06 15 2		295 x 855	P30 11 60 2	
	220 x 355	P30 07 15 2		310 x 825	P30 12 60 2	
	240 x 315	P30 08 15 2		350 x 720	P30 14 60 2	
	260 x 285	P30 10 15 2		365 x 645	P30 15 60 2	
	185 x 375	P40 04 15 2		385 x 635	P30 16 60 2	
	205 x 345	P40 05 15 2		405 x 625	P30 17 60 2	
	225 x 275	P40 06 15 2		420 x 570	P30 18 60 2	
	245 x 245	P40 07 15 2		440 x 550	P30 19 60 2	
	245 x 245	P40 08 15 2		455 x 545	P30 20 60 2	
	2 kW	170 x 765		P30 04 20 2	475 x 540	P30 21 60 2
		185 x 635		P30 05 20 2	265 x 785	P40 08 60 2
		205 x 565		P30 06 20 2	305 x 635	P40 10 60 2
220 x 475		P30 07 20 2		325 x 585	P40 11 60 2	
240 x 420		P30 08 20 2		350 x 550	P40 12 60 2	
260 x 380		P30 09 20 2		365 x 505	P40 13 60 2	
275 x 340		P30 10 20 2		390 x 470	P40 14 60 2	
295 x 315		P30 11 20 2		405 x 455	P40 15 60 2	
185 x 515		P40 04 20 2		425 x 425	P40 16 60 2	
210 x 420		P40 05 20 2		300 x 300	P90 10 60 2	
225 x 350		P40 06 20 2				
245 x 305		P40 07 20 2				
265 x 275		P40 08 20 2				
3 kW		205 x 925	P30 06 30 2			
	225 x 790	P30 07 30 2				
	240 x 690	P30 08 30 2				
	260 x 620	P30 09 30 2				
	275 x 555	P30 10 30 2				
	295 x 510	P30 11 30 2				
	315 x 460	P30 12 30 2				
	330 x 440	P30 13 30 2				
	345 x 410	P30 14 30 2				
	365 x 390	P30 15 30 2				
	370 x 385	P30 16 30 2				
	205 x 685	P40 05 30 2				
	225 x 575	P40 06 30 2				
	245 x 500	P40 07 30 2				
	265 x 445	P40 08 30 2				
	285 x 400	P40 09 30 2				
	325 x 340	P40 11 30 2				
	340 x 340	P40 12 30 2				

- List of other single-phase voltages available
- 110V single-phase : 0.5 kW, 1 kW, 1.5 kW, 2 kW
  - 460V single-phase : 1 kW, 1.5 kW, 2 kW, 3 kW, 4 kW, 6 kW



## THREE-PHASES IMMERSION HEATERS

KW	J x K	230V 3-ph	400V 3-ph	KW	J x K	230V 3-ph	400V 3-ph		
1.5 kW	170 x 680	P30 04 15 4	P30 04 15 5	9 kW	400 x 975 *	P30 17 90 4	P30 17 90 5		
	205 x 475	P30 06 15 4	P30 06 15 5		435 x 870	P30 19 90 4	P30 19 90 5		
	225 x 440	P30 07 15 4	P30 07 15 5		475 x 800	P30 21 90 4	P30 21 90 5		
	240 x 360	P30 08 15 4	P30 08 15 5		490 x 790	P30 22 90 4	P30 22 90 5		
	<b>280 x 340</b>	<b>P30 10 15 4</b>	<b>P30 10 15 5</b>		525 x 720	P30 24 90 4	P30 24 90 5		
	185 x 380	P40 04 15 4	P40 04 15 5		545 x 705	P30 25 90 4	P30 25 90 5		
	205 x 375	P40 05 15 4	P40 05 15 5		565 x 695	P30 26 90 4	P30 26 90 5		
	225 x 325	P40 06 15 4	P40 06 15 5		<b>600 x 675</b>	<b>P30 28 90 4</b>	<b>P30 28 90 5</b>		
	245 x 275	P40 07 15 4	P40 07 15 5		345 x 890	P40 12 90 4	P40 12 90 5		
	270 x 270	P40 08 15 4	P40 08 15 5		385 x 775	P40 14 90 4	P40 14 90 5		
	195 x 195	P90 05 15 4	P90 05 15 5		405 x 730	P40 15 90 4	P40 15 90 5		
	3 kW	205 x 905	P30 06 30 4		P30 06 30 5	12 kW	425 x 685	P40 16 90 4	P40 16 90 5
		225 x 910	P30 07 30 4		P30 07 30 5		445 x 655	P40 17 90 4	P40 17 90 5
		240 x 700	P30 08 30 4		P30 08 30 5		465 x 625	P40 18 90 4	P40 18 90 5
260 x 705		P30 09 30 4	P30 09 30 5	505 x 575	P40 20 90 4		P40 20 90 5		
275 x 580		P30 10 30 4	P30 10 30 5	525 x 565	P40 21 90 4		P40 21 90 5		
295 x 575		P30 11 30 4	P30 11 30 5	375 x 375	P90 15 90 4		P90 15 90 5		
315 x 490		P30 12 30 4	P30 12 30 5	15 kW	430 x 1075 *		P30 18 12 4	P30 18 12 5	
330 x 465		P30 13 30 4	P30 13 30 5		440 x 1070 *		P30 19 12 4	P30 19 12 5	
350 x 450		P30 14 30 4	P30 14 30 5		510 x 885		P30 23 12 4	P30 23 12 5	
370 x 410		P30 15 30 4	P30 15 30 5		<b>585 x 785</b>		<b>P30 27 12 4</b>	<b>P30 27 12 5</b>	
<b>380 x 395</b>		<b>P30 16 30 4</b>	<b>P30 16 30 5</b>		385 x 915		P40 14 12 4	P40 14 12 5	
205 x 735		P40 05 30 4	P40 05 30 5		405 x 860		P40 15 12 4	P40 15 12 5	
230 x 615		P40 06 30 4	P40 06 30 5		425 x 800		P40 16 12 4	P40 16 12 5	
250 x 545		P40 07 30 4	P40 07 30 5		465 x 740		P40 18 12 4	P40 18 12 5	
265 x 470		P40 08 30 4	P40 08 30 5		485 x 705		P40 19 12 4	P40 19 12 5	
285 x 420		P40 09 30 4	P40 09 30 5		505 x 680		P40 20 12 4	P40 20 12 5	
325 x 360		P40 11 30 4	P40 11 30 5		545 x 625		P40 22 12 4	P40 22 12 5	
340 x 340		P40 12 30 4	P40 12 30 5		585 x 595		P40 24 12 4	P40 24 12 5	
250 x 250		P90 07 30 4	P90 07 30 5		410 x 410		P90 16 12 4	P90 16 12 5	
4.5 kW		240 x 905	P30 08 45 4		P30 08 45 5		12 kW	430 x 1245 *	P30 18 13 5
	275 x 750	P30 10 45 4	P30 10 45 5		445 x 1235 *	P30 19 13 5		P30 19 13 5	
	295 x 730	P30 11 45 4	P30 11 45 5		465 x 1140 *	P30 20 13 5		P30 20 13 5	
	315 x 625	P30 12 45 4	P30 12 45 5		485 x 1125 *	P30 21 13 5		P30 21 13 5	
	350 x 535	P30 14 45 4	P30 14 45 5		500 x 1045 *	P30 22 13 5		P30 22 13 5	
	370 x 520	P30 15 45 4	P30 15 45 5		520 x 1030 *	P30 23 13 5		P30 23 13 5	
	385 x 505	P30 16 45 4	P30 16 45 5		540 x 1035 *	P30 24 13 5		P30 24 13 5	
	405 x 460	P30 17 45 4	P30 17 45 5	555 x 950 *	P30 25 13 5	P30 25 13 5			
	<b>420 x 440</b>	<b>P30 18 45 4</b>	<b>P30 18 45 5</b>	575 x 940 *	P30 26 13 5	P30 26 13 5			
	265 x 595	P40 08 45 4	P40 08 45 5	<b>595 x 925</b>	<b>P30 27 13 5</b>	<b>P30 27 13 5</b>			
	285 x 535	P40 09 45 4	P40 09 45 5	375 x 1125 *	P40 13 13 5	P40 13 13 5			
	305 x 480	P40 10 45 4	P40 10 45 5	395 x 1055 *	P40 14 13 5	P40 14 13 5			
	325 x 445	P40 11 45 4	P40 11 45 5	415 x 1000 *	P40 15 13 5	P40 15 13 5			
	345 x 425	P40 12 45 4	P40 12 45 5	435 x 940	P40 16 13 5	P40 16 13 5			
	365 x 395	P40 13 45 4	P40 13 45 5	455 x 890	P40 17 13 5	P40 17 13 5			
	380 x 380	P40 14 45 4	P40 14 45 5	475 x 850	P40 18 13 5	P40 18 13 5			
	265 x 265	P90 09 45 4	P90 09 45 5	495 x 810	P40 19 13 5	P40 19 13 5			
	6 kW	275 x 990	P30 10 60 4	P30 10 60 5	515 x 780	P40 20 13 5		P40 20 13 5	
295 x 855		P30 11 60 4	P30 11 60 5	535 x 750	P40 21 13 5	P40 21 13 5			
310 x 825		P30 12 60 4	P30 12 60 5	555 x 725	P40 22 13 5	P40 22 13 5			
350 x 720		P30 14 60 4	P30 14 60 5	575 x 700	P40 23 13 5	P40 23 13 5			
365 x 645		P30 15 60 4	P30 15 60 5	595 x 690	P40 24 13 5	P40 24 13 5			
385 x 635		P30 16 60 4	P30 16 60 5	615 x 660	P40 25 13 5	P40 25 13 5			
405 x 625		P30 17 60 4	P30 17 60 5	635 x 640	P40 26 13 5	P40 26 13 5			
420 x 570		P30 18 60 4	P30 18 60 5	450 x 450	P90 17 13 5	P90 17 13 5			
440 x 550		P30 19 60 4	P30 19 60 5	<p>For the construction of the reference, see following page.</p> <p><b>Attention P90 type F :</b> Add 25 mm on J and K to the dimensions written</p> <p>* If feet option : 6 feet required instead of 4</p> <p><b>Other voltage available :</b> 460V three-phases : 3 kW, 4.5 kW, 6 kW, 9 kW, 12 kW, 15 kW</p>					
455 x 545		P30 20 60 4	P30 20 60 5						
<b>475 x 540</b>		<b>P30 21 60 4</b>	<b>P30 21 60 5</b>						
265 x 785		P40 08 60 4	P40 08 60 5						
305 x 635		P40 10 60 4	P40 10 60 5						
325 x 585		P40 11 60 4	P40 11 60 5						
350 x 550		P40 12 60 4	P40 12 60 5						
365 x 505		P40 13 60 4	P40 13 60 5						
390 x 470		P40 14 60 4	P40 14 60 5						
405 x 455		P40 15 60 4	P40 15 60 5						
425 x 425		P40 16 60 4	P40 16 60 5						
300 x 300		P90 10 60 4	P90 10 60 5						



## Construction of the reference number

P30	03	05	2	J	F	0	0	F	1
thickness code	J x K code	power code	voltage code	exit code	cable code	N length code	C length code	assembly code	materials code
P30	03	05 = 0.5 kW	1 = 110V M	J = small side	<b>F</b>	<b>0 = 1m</b>	<b>0 = 1m</b>	<b>F</b>	<b>1</b>
P40	04	10 = 1 kW	<b>2= 230V M</b>	K = large side	<b>G</b>	1 = 1,5m	1 = 1,5m		<b>2</b>
P90	...	15 = 1.5 kW	3= 460V M		<b>P</b>	2 = 2 m	2 = 2 m		<b>6</b>
		20 = 2 kW	4 = 230V T		<b>D</b>	3 = 2,5m	3 = 2,5m		<b>7</b>
		30 = 3 kW	<b>5= 400V T</b>			4 = 3m	4 = 3m		<b>8</b>
		40 = 4 kW	6= 460V T			5 = 3,5m	5 = 3,5m		
		45 = 4.5 kW				6 = 4m	6 = 4m		
		60 = 6 kW				7 = 4,5m	7 = 4,5m		
		90 = 9 kW				8 = 5m	8 = 5m		
		12 = 12 kW				9 = sup.5m	9 = sup.5m		
		13 = 15 kW							

### Cable code details

**F** = FEP single layer 1 W/cm<sup>2</sup>  
**G** = FEP double layer 1 W/cm<sup>2</sup>  
**P** = PFA single layer 1 W/cm<sup>2</sup>  
**D** = PFA double layer 1 W/cm<sup>2</sup>

### Assembly code details

**F** = with a rod frame  
**H** = for rod frame

### Support materials code

code	frame	strips	other pieces
<b>1</b>	<b>PVDF</b>	<b>PVDF</b>	<b>PVDF</b>
<b>2</b>	<b>PP</b>	<b>PP</b>	<b>PP</b>
<b>6</b>	PVDF	FEP	PVDF
<b>7</b>	PP	FEP	PP
<b>8*</b>	inox	FEP	PP

*\* Please contact us*

