

# ) Galvatherm flat heaters Assembly type F )

installation on  
the side or at  
the bottom

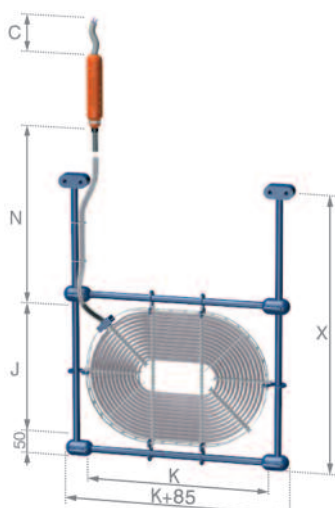
**Universal model for all types of installation such as side of tank, bottom of tank with feet or on slidings.**

**Rigid structure ideal for important powers**

**On a plastic rod frame PVDF or PP**



model represented with  
exit on J corner (small side)



model represented with  
exit on K corner (large side)

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

The Galvatherm heaters are specially designed with a cable that only heats the part that is to be continually immersed and are only planned to heat liquids.

The cable is composed of a heating resistance insulated with thermal and electric components on which is co-extruded a Teflon® sheath insuring a reliable chemical resistance.

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.

**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.

This modular assembly type provides a satisfactory installation of the heaters in all situations. The heater is secured on the rod structure by clips which, whenever needed, make the removal of the heating part easier. Please note the reference table of the flat heaters on the 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 (as shown above).

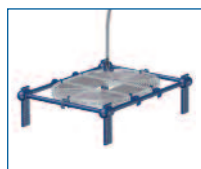
## Options & Accessories

### Extra length of cables



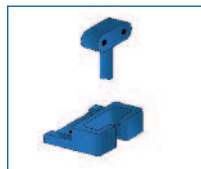
**electrical cable C**  
of type HO5 VV-F (PVC)  
or HO7 RN-F (Neopren)  
**non heating cable N**  
to go out of the tank

### Feet



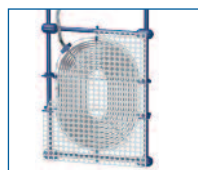
for installation at the bottom of  
the tank, feet in PP or PVDF  
(standard height 50 mm)  
ref in PP : PIPP  
ref in PVDF : PIPF

### Frame supports



frame supports in PP or PVDF  
to fix on the edge of the tank  
ref in PP : SUPP  
ref in PVDF : SUPF

### Removable guards



perforated plastic guard in  
PP or PVDF  
ref in PP : PRPPP  
ref in PVDF : PRPPF

### 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

### Wedges



wedges for PP or PVDF frame  
to fix on the edge of the tank  
ref in PP : CAPP  
ref in PVDF : CAPF

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# Galvatherm flat heaters References

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.

S I N G L E - P H A S E   H E A T E R S					
KW	J x K	230V sg-ph	KW	J x K	230V sg-ph
<b>0.5 kW</b>	150 x 375	P30 03 05 2	<b>4 kW</b>	225 x 880	P30 07 40 2
	170 x 265	P30 04 05 2		260 x 700	P30 09 40 2
	<b>185 x 210</b>	<b>P30 05 05 2</b>		315 x 545	P30 12 40 2
	165 x 230	P40 03 05 2		330 x 515	P30 13 40 2
<b>1 kW</b>	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		<b>405 x 420</b>	<b>P30 17 40 2</b>
	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
	<b>240 x 250</b>	<b>P30 08 10 2</b>		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
<b>1.5 kW</b>	165 x 680	P30 04 15 2	<b>5 kW</b>	340 x 580	P30 13 50 2
	205 x 425	P30 06 15 2		360 x 545	P30 14 50 2
	220 x 355	P30 07 15 2		375 x 520	P30 15 50 2
	240 x 315	P30 08 15 2		395 x 500	P30 16 50 2
	<b>260 x 285</b>	<b>P30 10 15 2</b>		410 x 475	P30 17 50 2
	185 x 375	P40 04 15 2		430 x 455	P30 18 50 2
	205 x 345	P40 05 15 2		<b>450 x 445</b>	<b>P30 19 50 2</b>
	225 x 275	P40 06 15 2		215 x 940	P40 05 50 2
	245 x 245	P40 07 15 2		235 x 790	P40 06 50 2
	245 x 245	P40 08 15 2		255 x 685	P40 07 50 2
<b>2 kW</b>	170 x 765	P30 04 20 2		275 x 605	P40 08 50 2
	185 x 635	P30 05 20 2		295 x 545	P40 09 50 2
	205 x 565	P30 06 20 2	315 x 495	P40 10 50 2	
	220 x 475	P30 07 20 2	335 x 460	P40 11 50 2	
	240 x 420	P30 08 20 2	355 x 430	P40 12 50 2	
	260 x 380	P30 09 20 2	375 x 405	P40 13 50 2	
	275 x 340	P30 10 20 2	395 x 390	P40 14 50 2	
	<b>295 x 315</b>	<b>P30 11 20 2</b>	<b>6 kW</b>	275 x 990	P30 10 60 2
	185 x 515	P40 04 20 2		295 x 855	P30 11 60 2
	210 x 420	P40 05 20 2		310 x 825	P30 12 60 2
225 x 350	P40 06 20 2	350 x 720		P30 14 60 2	
245 x 305	P40 07 20 2	365 x 645		P30 15 60 2	
265 x 275	P40 08 20 2	385 x 635		P30 16 60 2	
<b>3 kW</b>	205 x 925	P30 06 30 2		405 x 625	P30 17 60 2
	225 x 790	P30 07 30 2		420 x 570	P30 18 60 2
	240 x 690	P30 08 30 2		440 x 550	P30 19 60 2
	260 x 620	P30 09 30 2		455 x 545	P30 20 60 2
	275 x 555	P30 10 30 2		<b>475 x 540</b>	<b>P30 21 60 2</b>
	295 x 510	P30 11 30 2		265 x 785	P40 08 60 2
	315 x 460	P30 12 30 2	305 x 635	P40 10 60 2	
	330 x 440	P30 13 30 2	325 x 585	P40 11 60 2	
	345 x 410	P30 14 30 2	350 x 550	P40 12 60 2	
	365 x 390	P30 15 30 2	365 x 505	P40 13 60 2	
	<b>370 x 385</b>	<b>P30 16 30 2</b>	390 x 470	P40 14 60 2	
	205 x 685	P40 05 30 2	405 x 455	P40 15 60 2	
	225 x 575	P40 06 30 2	425 x 425	P40 16 60 2	
	245 x 500	P40 07 30 2	300 x 300	P90 10 60 2	
265 x 445	P40 08 30 2	List of other 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, 5 kW, 6 kW			
285 x 400	P40 09 30 2				
325 x 340	P40 11 30 2				
340 x 340	P40 12 30 2				

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# Galvatherm flat heaters References

## THREE-PHASES HEATERS

KW	J x K	230V tri	400V tri	KW	J x K	230V tri	400V tri
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
					425 x 685	P40 16 90 4	P40 16 90 5
					445 x 655	P40 17 90 4	P40 17 90 5
3 kW	205 x 905	P30 06 30 4	P30 06 30 5	12 kW	430 x 1075	P30 18 12 4	P30 18 12 5
	225 x 910	P30 07 30 4	P30 07 30 5		440 x 1070	P30 19 12 4	P30 19 12 5
	240 x 700	P30 08 30 4	P30 08 30 5		510 x 885	P30 23 12 4	P30 23 12 5
	260 x 705	P30 09 30 4	P30 09 30 5		<b>585 x 785</b>	<b>P30 27 12 4</b>	<b>P30 27 12 5</b>
	275 x 580	P30 10 30 4	P30 10 30 5		385 x 915	P40 14 12 4	P40 14 12 5
	295 x 575	P30 11 30 4	P30 11 30 5		405 x 860	P40 15 12 4	P40 15 12 5
	315 x 490	P30 12 30 4	P30 12 30 5		425 x 800	P40 16 12 4	P40 16 12 5
	330 x 465	P30 13 30 4	P30 13 30 5		465 x 740	P40 18 12 4	P40 18 12 5
	350 x 450	P30 14 30 4	P30 14 30 5		485 x 705	P40 19 12 4	P40 19 12 5
	370 x 410	P30 15 30 4	P30 15 30 5		505 x 680	P40 20 12 4	P40 20 12 5
	<b>380 x 395</b>	<b>P30 16 30 4</b>	<b>P30 16 30 5</b>		545 x 625	P40 22 12 4	P40 22 12 5
	205 x 735	P40 05 30 4	P40 05 30 5		585 x 595	P40 24 12 4	P40 24 12 5
	230 x 615	P40 06 30 4	P40 06 30 5		410 x 410	P90 16 12 4	P90 16 12 5
	250 x 545	P40 07 30 4	P40 07 30 5				
	265 x 470	P40 08 30 4	P40 08 30 5				
	285 x 420	P40 09 30 4	P40 09 30 5				
	325 x 360	P40 11 30 4	P40 11 30 5				
340 x 340	P40 12 30 4	P40 12 30 5					
250 x 250	P90 07 30 4	P90 07 30 5					
4.5 kW	240 x 905	P30 08 45 4	P30 08 45 5	15 kW	430 x 1245	P30 18 13 4	P30 18 13 5
	275 x 750	P30 10 45 4	P30 10 45 5		445 x 1235	P30 19 13 4	P30 19 13 5
	295 x 730	P30 11 45 4	P30 11 45 5		465 x 1140	P30 20 13 4	P30 20 13 5
	315 x 625	P30 12 45 4	P30 12 45 5		485 x 1125	P30 21 13 4	P30 21 13 5
	350 x 535	P30 14 45 4	P30 14 45 5		500 x 1045	P30 22 13 4	P30 22 13 5
	370 x 520	P30 15 45 4	P30 15 45 5		520 x 1030	P30 23 13 4	P30 23 13 5
	385 x 505	P30 16 45 4	P30 16 45 5		540 x 1035	P30 24 13 4	P30 24 13 5
	405 x 460	P30 17 45 4	P30 17 45 5		555 x 950	P30 25 13 4	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 4	P30 26 13 5
	265 x 595	P40 08 45 4	P40 08 45 5		<b>595 x 925</b>	<b>P30 27 13 4</b>	<b>P30 27 13 5</b>
	285 x 535	P40 09 45 4	P40 09 45 5		375 x 1125	P40 13 13 4	P40 13 13 5
	305 x 480	P40 10 45 4	P40 10 45 5		395 x 1055	P40 14 13 4	P40 14 13 5
	325 x 445	P40 11 45 4	P40 11 45 5		415 x 1000	P40 15 13 4	P40 15 13 5
	345 x 425	P40 12 45 4	P40 12 45 5		435 x 940	P40 16 13 4	P40 16 13 5
	365 x 395	P40 13 45 4	P40 13 45 5		455 x 890	P40 17 13 4	P40 17 13 5
	380 x 380	P40 14 45 4	P40 14 45 5		475 x 850	P40 18 13 4	P40 18 13 5
	265 x 265	P90 09 45 4	P90 09 45 5		495 x 810	P40 19 13 4	P40 19 13 5
			515 x 780	P40 20 13 4	P40 20 13 5		
			535 x 750	P40 21 13 4	P40 21 13 5		
			555 x 725	P40 22 13 4	P40 22 13 5		
			575 x 700	P40 23 13 4	P40 23 13 5		
			595 x 690	P40 24 13 4	P40 24 13 5		
			615 x 660	P40 25 13 4	P40 25 13 5		
			635 x 640	P40 26 13 4	P40 26 13 5		
			450 x 450	P90 17 13 4	P90 17 13 5		
6 kW	275 x 990	P30 10 60 4	P30 10 60 5	References beginning by : P30 = thickness 30 mm / P40 = 40 mm / P90 =100 mm			
	295 x 855	P30 11 60 4	P30 11 60 5	<b>Standard cable : FEP single layer.</b>			
	310 x 825	P30 12 60 4	P30 12 60 5	<b>Other cable available, please contact us.</b>			
	350 x 720	P30 14 60 4	P30 14 60 5	<b>Please ask for advise.</b>			
	365 x 645	P30 15 60 4	P30 15 60 5	<b>For the construction of the reference, see following page.</b>			
	385 x 635	P30 16 60 4	P30 16 60 5	<b>All dimensions given with a tolerance of ± 10 mm .</b>			
	405 x 625	P30 17 60 4	P30 17 60 5	Other voltage available 460V 3-ph : 3 kW, 4.5 kW, 6 kW, 9 kW,12 kW, 15 kW			
	420 x 570	P30 18 60 4	P30 18 60 5				
	440 x 550	P30 19 60 4	P30 19 60 5				
	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					

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# Galvatherm flat heaters Codification

## Construction of the reference number

P30	03	05	2	J	F	0	0	F	1
thickness code	JxK 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 = petit côté	<b>F</b>	0 = 1m	0 = 1m	<b>F</b>	<b>1</b>
P40	04	10 = 1 kW	2 = 230V M	K = grand côté	<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	5 = 400V T		<b>E</b>	4 = 3m	4 = 3m		
		40 = 4 kW	6 = 460V T		<b>H</b>	5 = 3,5m	5 = 3,5m		
		45 = 4.5 kW				6 = 4m	6 = 4m		
		50 = 5 kW				7 = 4,5m	7 = 4,5m		
		60 = 6 kW				8 = 5m	8 = 5m		
		90 = 9 kW				9 = sup.5m	9 = sup.5m		
		12 = 12 kW							
		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>  
**E** = PFA double layer 0,5 W/cm<sup>2</sup>  
**H** = PFA single layer 0,5 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
1	PVDF	PVDF	PVDF
2	PP	PP	PP
6	PVDF	FEP	PVDF
7	PP	FEP	PP