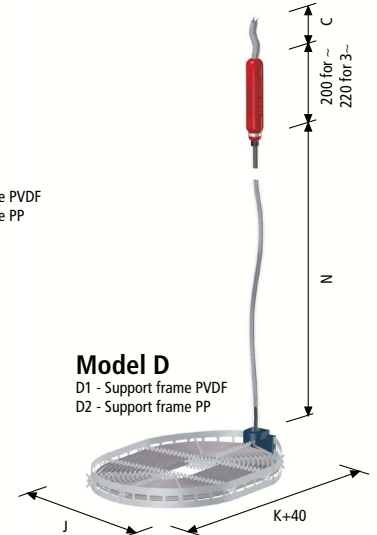
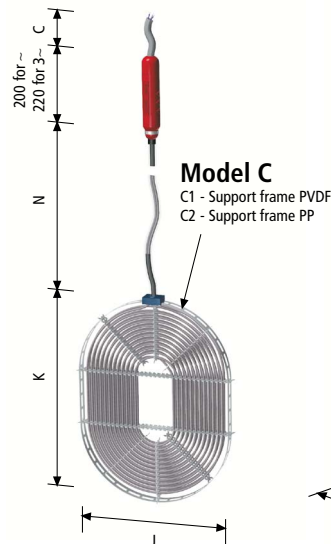
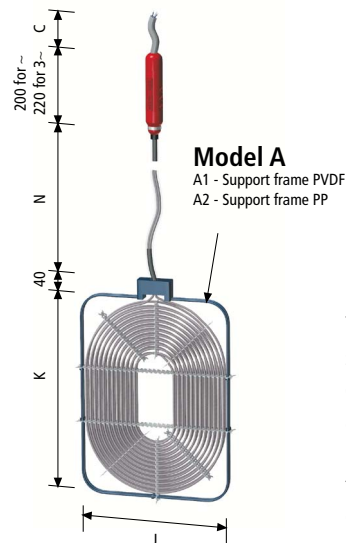


GALMATHERM® Teflon Heaters

GALMATHERM Teflon heaters are designed specifically for use as direct electric heaters in plants and tanks where space is at a premium and high heating capacities and excellent resistance to aggressive process liquids are required. The very good chemical resistance of the heating cable is achieved by the use of a special sheath made of Teflon (Teflon-FEP or Teflon-PFA). The surface power density is only 1 W/cm².



The Teflon-PFA sheath should be selected for particularly critical operating conditions in extremely aggressive process liquids (such as mixed-acid chrome electrolyte) and for very high liquid temperatures (max. 100°C). The wide range of different shapes and designs provides simple solutions to even difficult installation problems. Small dimensions, combined with relatively high heating powers, permit space-saving installation. The use of high-quality materials guarantees a long operating lifetime with optimum reliability and thus ensures problemfree operation of the plant.

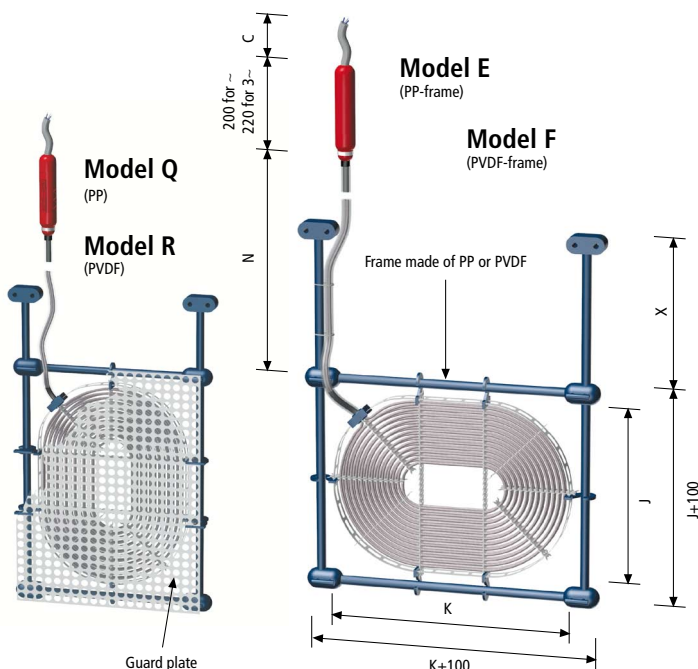
Construction

These heaters consist of a metal heating wire in a Teflon sheath, wound on a flexible PP or PVDF support frame. The mounting elements and the spacers which prevent direct contact between the windings of the heating cable and between the windings and the tank, are also made of PP or PVDF. The mechanical strength can be improved by mounting the heater in a steel frame with PP / PVDF sheath (Model A) or in a robust PP / PVDF frame (Models E / F).

A guard plate made of PP or PVDF (Models Q / R) protects the heater against mechanical damage.

The unheated connection cable leaving the heater is also sheathed in Teflon as far as the connection sleeve and is secured in a PP expandable braided sleeving. This part of the heater can be immersed in the process liquid and carries markings for the minimum and maximum immersion depth. Even in applications with extreme level variations, the liquid level must remain within this range! From the PVC connection sleeve (degree of protection IP64 to EN 60528), a PVC connection cable leads to the switchgear cabinet. The connection sleeve may not be immersed in the liquid, nor may it be directly exposed to vapours.

Teflon is a registered trademark of Du-Pont.



Flat Teflon heater GALMATHERM (Type P 30 / P40)

Rated power (kW)	Dimensions JxK (mm) for rated voltage (V)		Type designation for rated voltage (V)		Rated power (kW)	Dimensions JxK (mm) for rated voltage (V)		Type designation for rated voltage (V)		Rated power (kW)	Dimensions JxK (mm) for rated voltage (V)		Type designation for rated voltage (V)	
	230 V~	400 V 3~	230 V~	400 V 3~		400 V 3~	400 V 3~	400 V 3~	400 V 3~					
											230 V~	400 V 3~	230 V~	400 V 3~
1,0	150 x 605	-	P3003102	-	4,5	240 x 905	P3008455	12,0	430 x 1075	P3018125				
1,0	170 x 520	-	P3004102	-	4,5	275 x 750	P3010455	12,0	440 x 1070	P3019125				
1,0	185 x 365	-	P3005102	-	4,5	295 x 730	P3011455	12,0	510 x 885	P3023125				
1,0	205 x 335	-	P3006102	-	4,5	315 x 625	P3012455	12,0	585 x 785	P3027125				
1,0	220 x 290	-	P3007102	-	4,5	350 x 535	P3014455	12,0	385 x 915	P4014125				
1,0	240 x 250	-	P3008102	-	4,5	370 x 520	P3015455	12,0	405 x 860	P4015125				
1,0	165 x 395	-	P4003102	-	4,5	385 x 505	P3016455	12,0	425 x 800	P4016125				
1,0	185 x 305	-	P4004102	-	4,5	405 x 460	P3017455	12,0	465 x 740	P4018125				
1,0	205 x 255	-	P4005102	-	4,5	420 x 440	P3018455	12,0	485 x 705	P4019125				
1,0	225 x 230	-	P4006102	-	4,5	265 x 595	P4008455	12,0	505 x 680	P4020125				
1,5	165 x 680	170 x 680	P3004152	P3004155	4,5	285 x 535	P4009455	12,0	545 x 625	P4022125				
1,5	205 x 425	205 x 475	P3006152	P3006155	4,5	305 x 480	P4010455	12,0	585 x 595	P4024125				
1,5	220 x 355	225 x 440	P3007152	P3007155	4,5	325 x 445	P4011455	15,0	430 x 1245	P3018135				
1,5	240 x 315	240 x 360	P3008152	P3008155	4,5	345 x 425	P4012455	15,0	445 x 1235	P3019135				
1,5	260 x 285	280 x 340	P3010152	P3010155	4,5	365 x 395	P4013455	15,0	465 x 1140	P3020135				
1,5	185 x 375	185 x 380	P4004152	P4004155	4,5	380 x 380	P4014455	15,0	485 x 1125	P3021135				
1,5	205 x 345	205 x 375	P4005152	P4005155	6,0	275 x 990	P3010605	15,0	500 x 1045	P3022135				
1,5	225 x 275	225 x 325	P4006152	P4006155	6,0	295 x 855	P3011605	15,0	520 x 1030	P3023135				
1,5	245 x 245	245 x 275	P4007152	P4007155	6,0	310 x 825	P3012605	15,0	540 x 1035	P3024135				
1,5	245 x 245	270 x 270	P4008152	P4008155	6,0	350 x 720	P3014605	15,0	555 x 950	P3025135				
2,0	170 x 765	-	P3004202	-	6,0	365 x 645	P3015605	15,0	575 x 940	P3026135				
2,0	185 x 635	-	P3005202	-	6,0	385 x 635	P3016605	15,0	595 x 925	P3027135				
2,0	205 x 565	-	P3006202	-	6,0	405 x 625	P3017605	15,0	375 x 1125	P4013135				
2,0	220 x 475	-	P3007202	-	6,0	420 x 570	P3018605	15,0	395 x 1055	P4014135				
2,0	240 x 420	-	P3008202	-	6,0	440 x 550	P3019605	15,0	415 x 1000	P4015135				
2,0	260 x 380	-	P3009202	-	6,0	455 x 545	P3020605	15,0	435 x 940	P4016135				
2,0	275 x 340	-	P3010202	-	6,0	475 x 540	P3021605	15,0	455 x 890	P4017135				
2,0	295 x 315	-	P3011202	-	6,0	265 x 785	P4008605	15,0	475 x 850	P4018135				
2,0	185 x 515	-	P4004202	-	6,0	305 x 635	P4010605	15,0	495 x 810	P4019135				
2,0	210 x 420	-	P4005202	-	6,0	325 x 585	P4011605	15,0	515 x 780	P4020135				
2,0	225 x 350	-	P4006202	-	6,0	350 x 550	P4012605	15,0	535 x 750	P4021135				
2,0	245 x 305	-	P4007202	-	6,0	365 x 505	P4013605	15,0	555 x 725	P4022135				
2,0	265 x 275	-	P4008202	-	6,0	390 x 470	P4014605	15,0	575 x 700	P4023135				
3,0	205 x 925	205 x 905	P3006302	P3006305	6,0	405 x 455	P4015605	15,0	595 x 690	P4024135				
3,0	225 x 790	225 x 910	P3007302	P3007305	6,0	425 x 425	P4016605	15,0	615 x 660	P4025135				
3,0	240 x 690	240 x 700	P3008302	P3008305	9,0	400 x 975	P3017905	15,0	635 x 640	P4026135				
3,0	260 x 620	260 x 705	P3009302	P3009305	9,0	435 x 870	P3019905							
3,0	275 x 555	275 x 580	P3010302	P3010305	9,0	475 x 800	P3021905							
3,0	295 x 510	295 x 575	P3011302	P3011305	9,0	490 x 790	P3022905							
3,0	315 x 460	315 x 490	P3012302	P3012305	9,0	525 x 720	P3024905							
3,0	330 x 440	330 x 465	P3013302	P3013305	9,0	545 x 705	P3025905							
3,0	345 x 410	350 x 450	P3014302	P3014305	9,0	565 x 695	P3026905							
3,0	365 x 390	370 x 410	P3015302	P3015305	9,0	600 x 675	P3028905							
3,0	370 x 385	380 x 395	P3016302	P3016305	9,0	345 x 890	P4012905							
3,0	205 x 685	205 x 735	P4005302	P4005305	9,0	385 x 775	P4014905							
3,0	225 x 575	230 x 615	P4006302	P4006305	9,0	405 x 730	P4015905							
3,0	245 x 500	250 x 545	P4007302	P4007305	9,0	425 x 685	P4016905							
3,0	265 x 445	265 x 470	P4008302	P4008305	9,0	445 x 655	P4017905							
3,0	285 x 400	285 x 420	P4009302	P4009305	9,0	465 x 625	P4018905							
3,0	325 x 340	325 x 360	P4011302	P4011305	9,0	505 x 575	P4020905							
3,0	340 x 340	340 x 340	P4012302	P4012305	9,0	525 x 565	P4021905							
4,0	225 x 880	-	P3007402	-										
4,0	260 x 700	-	P3009402	-										
4,0	315 x 545	-	P3012402	-										
4,0	330 x 515	-	P3013402	-										
4,0	350 x 475	-	P3014402	-										
4,0	385 x 435	-	P3016402	-										
4,0	405 x 420	-	P3017402	-										
4,0	205 x 810	-	P4005402	-										
4,0	225 x 685	-	P4006402	-										
4,0	245 x 595	-	P4007402	-										
4,0	285 x 475	-	P4009402	-										
4,0	310 x 435	-	P4010402	-										
4,0	325 x 400	-	P4011402	-										
4,0	345 x 375	-	P4012402	-										

Legend:

Type:

J = unheated connection cable N on the short side J

K = unheated connection cable N on the long side K

Teflon sheath:

F = Teflon-FEP

P = Teflon-PFA

Type designation	Type	Teflon sheath Heater cable	Length of unheated connection cable N			Length of connection cable C			Model
			0=1m	1=1,5m	2=2m	0=1m	1=1,5m	2=2m	
P	J or K	F or P	3=2,5m	4=3m	5=3,5m	3=2,5m	4=3m	5=3,5m	A1,A2,C1,C2,D1,D2,E,F,M1,M2,Q,R
			6=4m	7=4,5m	8=5m	6=4m	7=4,5m	8=5m	

Example: J F 2 0 E
P4010402 JF20E: Flat heater, 4 kW, dimensions JxK for 230~V (310 x 435 mm), connection cable N on short side J, Teflon-FEP sheath, 2 m connection cable N, 1 m connection cable C, PP frame without guard plate.