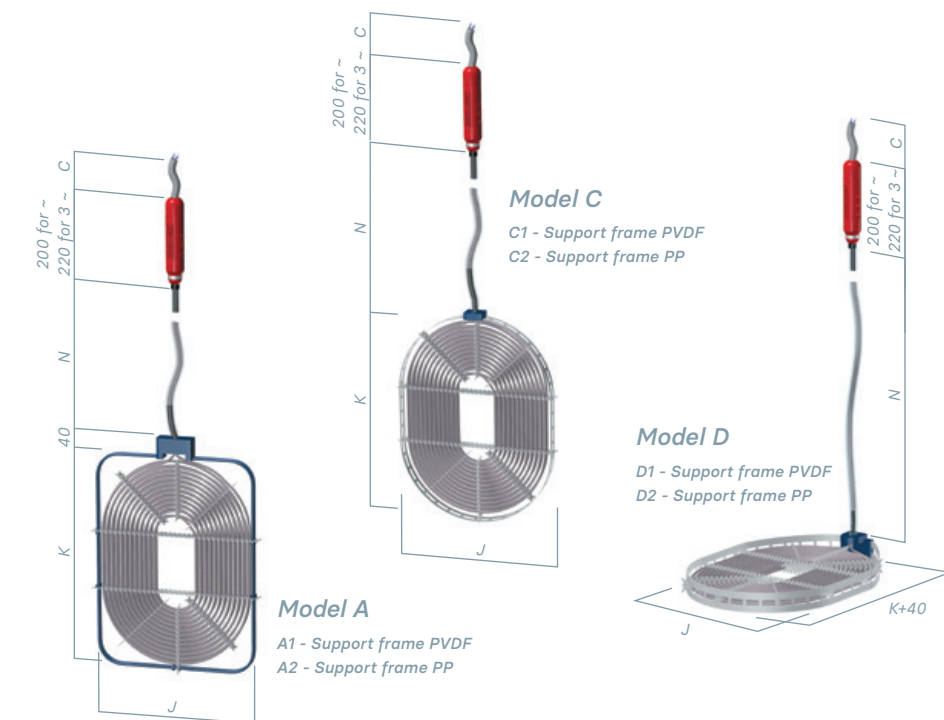


GALMATHERM® Heaters

GALMATHERM 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 fluoropolymer. The surface power density is only 1 W/cm².

The sheathing is resistant to 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 fluoropolymer sheath, wound on a flexible fluoropolymer 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

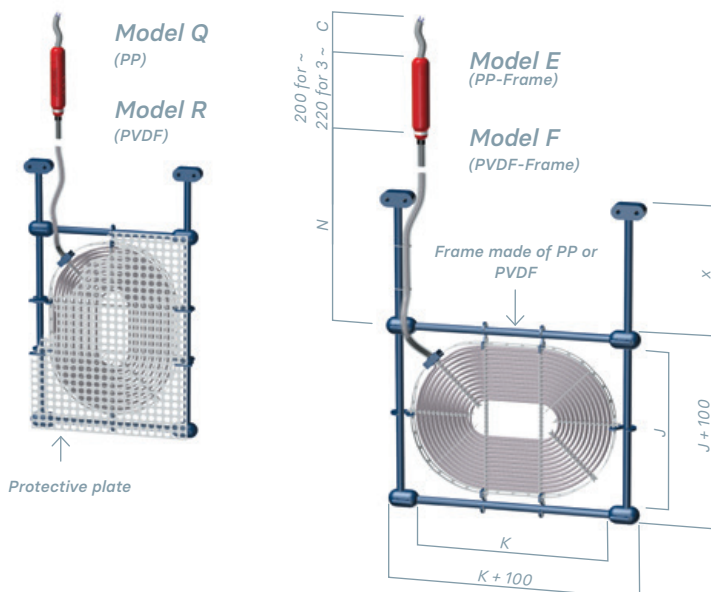
frame with PP/PVDF sheath (Model A) or in a robust PP/PVDF frame (Models E/F).

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

The unheated connection cable leaving the heater is also fluoropolymer sheathed in 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 IP 64 to EN 60529), a 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.



Flat Heater GALMATHERM (Type P30 / P40)

Rated power [kW]

	Dimensions J x K [mm] for rated voltage		Type designation for rated voltage	
	230 V~	400 V3~	230 V~	400 V3~
1,0	150 x 605	-	P30 03102	-
1,0	170 x 520	-	P30 04102	-
1,0	185 x 365	-	P30 05102	-
1,0	205 x 335	-	P30 06102	-
1,0	220 x 290	-	P30 07102	-
1,0	240 x 250	-	P30 08102	-
1,0	165 x 395	-	P40 03102	-
1,0	185 x 305	-	P40 04102	-
1,0	205 x 255	-	P40 05102	-
1,0	225 x 230	-	P40 06102	-
1,5	165 x 680	170 x 680	P30 04152	P30 04155
1,5	205 x 425	205 x 475	P30 06152	P30 06155
1,5	220 x 355	225 x 440	P30 07152	P30 07155
1,5	240 x 315	240 x 360	P30 08152	P30 08155
1,5	260 x 285	280 x 340	P30 10152	P30 10155
1,5	185 x 375	185 x 380	P40 04152	P40 04155
1,5	205 x 345	205 x 375	P40 05152	P40 05155
1,5	225 x 275	225 x 325	P40 06152	P40 06155
1,5	245 x 245	245 x 275	P40 07152	P40 07155
1,5	245 x 245	270 x 270	P40 08152	P40 08155
2,0	170 x 765	-	P30 04202	-
2,0	185 x 635	-	P30 05202	-
2,0	205 x 565	-	P30 06202	-
2,0	220 x 475	-	P30 07202	-
2,0	240 x 420	-	P30 08202	-
2,0	260 x 380	-	P30 09202	-
2,0	275 x 340	-	P30 10202	-
2,0	295 x 315	-	P30 11202	-
2,0	185 x 515	-	P40 04202	-
2,0	210 x 420	-	P40 05202	-
2,0	225 x 350	-	P40 06202	-
2,0	245 x 305	-	P40 07202	-
2,0	265 x 275	-	P40 08202	-
3,0	205 x 925	205 x 905	P30 06302	P30 06305
3,0	225 x 790	225 x 910	P30 07302	P30 07305
3,0	240 x 690	240 x 700	P30 08302	P30 08305
3,0	260 x 620	260 x 705	P30 09302	P30 09305
3,0	275 x 555	275 x 580	P30 10302	P30 10305
3,0	295 x 510	295 x 575	P30 11302	P30 11305
3,0	315 x 460	315 x 490	P30 12302	P30 12305
3,0	330 x 440	330 x 465	P30 13302	P30 13305
3,0	345 x 410	350 x 450	P30 14302	P30 14305
3,0	365 x 390	370 x 410	P30 15302	P30 15305
3,0	370 x 385	380 x 395	P30 16302	P30 16305
3,0	205 x 685	205 x 735	P40 05302	P40 05305
3,0	225 x 575	230 x 615	P40 06302	P40 06305
3,0	245 x 500	250 x 545	P40 07302	P40 07305
3,0	265 x 445	265 x 470	P40 08302	P40 08305
3,0	285 x 400	285 x 420	P40 09302	P40 09305
3,0	325 x 340	325 x 360	P40 11302	P40 11305
3,0	340 x 340	340 x 340	P40 12302	P40 12305
4,0	225 x 880	-	P30 07402	-
4,0	260 x 700	-	P30 09402	-
4,0	315 x 545	-	P30 12402	-
4,0	330 x 515	-	P30 13402	-
4,0	350 x 475	-	P30 14402	-
4,0	385 x 435	-	P30 16402	-
4,0	405 x 420	-	P30 17402	-
4,0	205 x 810	-	P40 05402	-
4,0	225 x 685	-	P40 06402	-
4,0	245 x 595	-	P40 07402	-
4,0	285 x 475	-	P40 09402	-
4,0	310 x 435	-	P40 10402	-
4,0	325 x 400	-	P40 11402	-
4,0	345 x 375	-	P40 12402	-

Rated power [kW]

	Dimensions J x K [mm] for rated voltage		Type designation for rated voltage
	400 V3~	400 V3~	
4,5	240 x 905	P30 08455	
4,5	275 x 750	P30 10455	
4,5	295 x 730	P30 11455	
4,5	315 x 625	P30 12455	
4,5	350 x 535	P30 14455	
4,5	370 x 520	P30 15455	
4,5	385 x 505	P30 16455	
4,5	405 x 460	P30 17455	
4,5	420 x 440	P30 18455	
4,5	265 x 595	P40 08455	
4,5	285 x 535	P40 09455	
4,5	305 x 480	P40 10455	
4,5	325 x 445	P40 11455	
4,5	345 x 425	P40 12455	
4,5	365 x 395	P40 13455	
4,5	380 x 380	P40 14455	
6,0	275 x 990	P30 10605	
6,0	295 x 855	P30 11605	
6,0	310 x 825	P30 12605	
6,0	350 x 720	P30 14605	
6,0	365 x 645	P30 15605	
6,0	385 x 635	P30 16605	
6,0	405 x 625	P30 17605	
6,0	420 x 570	P30 18605	
6,0	440 x 550	P30 19605	
6,0	455 x 545	P30 20605	
6,0	475 x 540	P30 21605	
6,0	265 x 785	P40 08605	
6,0	305 x 635	P40 10605	
6,0	325 x 585	P40 11605	
6,0	350 x 550	P40 12605	
6,0	365 x 505	P40 13605	
6,0	390 x 470	P40 14605	
6,0	405 x 455	P40 15605	
6,0	425 x 425	P40 16605	
9,0	400 x 975	P30 17905	
9,0	435 x 870	P30 19905	
9,0	475 x 800	P30 21905	
9,0	490 x 790	P30 22905	
9,0	525 x 720	P30 24905	
9,0	545 x 705	P30 25905	
9,0	565 x 695	P30 26905	
9,0	600 x 675	P30 28905	
9,0	345 x 890	P40 12905	
9,0	385 x 775	P40 14905	
9,0	405 x 730	P40 15905	
9,0	425 x 685	P40 16905	
9,0	445 x 655	P40 17905	
9,0	465 x 625	P40 18905	
9,0	505 x 575	P40 20905	
9,0	525 x 565	P40 21905	

Rated power [kW]

	Dimensions J x K [mm] for rated voltage		Type designation for rated voltage
	400 V3~	400 V3~	
12,0	430 x 1075	P30 18125	
12,0	440 x 1070	P30 19125	
12,0	510 x 885	P30 23125	
12,0	585 x 785	P30 27125	
12,0	385 x 915	P40 14125	
12,0	405 x 860	P40 15125	
12,0	425 x 800	P40 16125	
12,0	465 x 740	P40 18125	
12,0	485 x 705	P40 19125	
12,0	505 x 680	P40 20125	
12,0	545 x 625	P40 22125	
12,0	585 x 595	P40 24125	
15,0	430 x 1245	P30 18135	
15,0	445 x 1235	P30 19135	
15,0	465 x 1140	P30 20135	
15,0	485 x 1125	P30 21135	
15,0	500 x 1045	P30 22135	
15,0	520 x 1030	P30 23135	
15,0	540 x 1035	P30 24135	
15,0	555 x 950	P30 25135	
15,0	575 x 940	P30 26135	
15,0	595 x 925	P30 27135	
15,0	375 x 1125	P40 13135	
15,0	395 x 1055	P40 14135	
15,0	415 x 1000	P40 15135	
15,0	435 x 940	P40 16135	
15,0	455 x 890	P40 17135	
15,0	475 x 850	P40 18135	
15,0	495 x 810	P40 19135	
15,0	515 x 780	P40 20135	
15,0	535 x 750	P40 21135	
15,0	555 x 725	P40 22135	
15,0	575 x 700	P40 23135	
15,0	595 x 690	P40 24135	
15,0	615 x 660	P40 25135	
15,0	635 x 640	P40 26135	

Legend:

Type:

J = unheated connection cable N
on the short side J
K = unheated connection cable N
on the long side K

Sheath material:

F = FEP/PFA
P = PFA
G = Double FEP/PFA
D = Double PFA

Type designation

Sheath heater cable

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

P40 10402JF20E: Flat heater, 4 kW, dimensions J x K for 230 V~ (310 x 435 mm), connection cable N on short side J, FEP/PFA sheath, 2 m connection cable N, 1 m connection cable C, PP frame without protective plate.

