



### Flansch-Thermoelement TTF

### Anwendung

"Unsere Flansch-Thermoelemente dienen zur Temperaturmessung von flüssigen und gasförmigen Medien in Rohrleitungen und Behältern. Unser TTF ist standardmäßig auch mit Ex-Zulassung erhältlich. Bei Anwendungen in aggressiven Medien können zudem spezielle Materialien oder Beschichtungen verwendet werden. Unsere Standardfühler TWFb-100/160/250/400 sind ab Lager lieferbar, gerne fertigen wir aber auch nach Kundenwunsch."

### **Technische Spezifikationen TTF**

Temperatursensor Typ K NiCr-Ni

Klasse

Temperaturbereich von -40°C bis +1150°C

Schutzart IP54

Messeinsatz auswechselbar, Ø3mm

Anschlusskopf BUZH

Prozessanschluss Flansch DN25 PN40

Werkstoff 1.4571

Schutzrohr Ø11mm, Spitze Ø6mm

Halsrohrlänge 130mm

#### Artikelnummer

Einbaulänge ohne Ex 100mm: TTF-100

160mm: **TTF-160** 250mm: **TTF-250** 400mm: **TTF-400** 

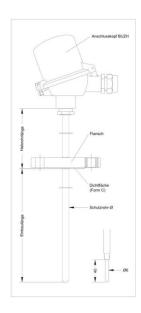
Einbaulänge mit Ex 100mm: TTF-100Ex

160mm: TTF-160Ex 250mm: TTF-250Ex 400mm: TTF-400Ex

# Gerne fertigen wir auch nach Kundenwunsch! benützen Sie unseren Konfigurator.



### Masszeichnung



### Messeinsatz: auswechselbar

"Die auswechselbare Variante ist durch eine Feder geschützt, welche Platzverdrängungen aufgrund starker Temperaturschwankungen entgegenwirkt. Weitere Infos finden Sie unter Widerstandsthermometer-Messeinsatz."

### Messeinsatz-Konfigurationen

1 x Typ K NiCr-Ni







## Spannungstabelle Thermoelement Typ K (NiCr-Ni)

		Thermo	oeleme	ente v	om Ty	/p K (l	NiCr-I	Ni) in	mV	
	0	1	2	3	4	5	6	7	8	9
-100°C	-3,554	-3,523	-3,492	-3,462	-3,431	-3,4	-3,368	-3,337	-3,306	-3,274
-90°C	-3,243	-3,211	-3,179	-3,147	-3,115	-3,083	-3,05	-3,018	-2,986	-2,953
-80°C	-2,92	-2,887	-2,854	-2,821	-2,788	-2,755	-2,721	-2,688	-2,654	-2,62
-70°C	-2,587	-2,553	-2,519	-2,485	-2,45	-2,416	-2,382	-2,347	-2,312	-2,278
-60°C	-2,243	-2,208	-2,173	-2,138	-2,103	-2,067	-2,032	-1,996	-1,961	-1,925
-50°C	-1,889	-1,854	-1,818	-1,782	-1,745	-1,709	-1,673	-1,637	-1,6	-1,564
-40°C	-1,527	-1,49	-1,453	-1,417	-1,38	-1,343	-1,305	-1,268	-1,231	-1,194
-30°C	-1,156	-1,119	-1,081	-1,043	-1,006	-0,968	-0,93	-0,892	-0,854	-0,816
-20°C	-0,778	-0,739	-0,701	-0,663	-0,624	-0,586	-0,547	-0,508	-0,47	-0,431
-10°C	-3,554	-3,523	-3,492	-3,462	-3,431	-3,4	-3,368	-3,337	-3,306	-3,274
0°C	0	0,075	0,114	0,154	0,193	0,233	0,273	0,313	0,352	0,392
+10°C	0,432	0,472	0,512	0,552	0,592	0,632	0,672	0,713	0,753	0,793
+20°C	0,833	0,874	0,914	0,954	0,995	1,035	1,076	1,117	1,157	1,198
+30°C	1,238	1,279	1,32	1,361	1,402	1,442	1,483	1,524	1,565	1,606
+40°C	1,647	1,688	1,729	1,77	1,811	1,852	1,893	1,935	1,976	2,017
+50°C	2,058	2,1	2,141	2,182	2,223	2,265	2,306	2,347	2,389	2,43
+60°C	2,472	2,513	2,555	2,596	2,637	2,679	2,72	2,762	2,803	2,845
+70°C	2,886	2,928	2,97	3,011	3,053	3,094	3,136	3,177	3,219	3,26
+80°C	3,302	3,343	3,385	3,426	3,468	3,51	3,551	3,593	3,634	3,676
+90°C	3,717	3,759	3,8	3,842	3,883	3,924	3,966	4,007	4,049	4,09
+100°C	4,131	4,173	4,214	4,255	4,297	4,338	4,379	4,421	4,462	4,503
	0	1	2	3	4	5	6	7	8	9
+110°C	4,544	4,585	4,627	4,668	4,709	4,75	4,791	4,832	4,873	4,914
+120°C	4,955	4,996	5,037	5,078	5,119	5,16	5,2	5,241	5,282	5,323
+130°C	5,364	5,404	5,445	5,486	5,526	5,567	5,608	5,648	5,689	5,729
+140°C	5,77	5,81	5,851	5,891	5,932	5,972	6,012	6,053	6,093	6,133
+150°C	6,174	6,214	6,254	6,294	6,335	6,375	6,415	6,455	6,495	6,535
+160°C	6,575	6,616	6,656	6,696	6,736	6,776	6,816	6,856	6,896	6,936
+170°C	6,976	7,016	7,056	7,096	7,136	7,176	7,216	7,255	7,295	7,335
+180°C	7,375	7,415	7,455	7,495	7,535	7,575	7,615	7,655	7,695	7,734
+190°C	7,774	7,814	7,854	7,894	7,934	7,974	8,014	8,054	8,094	8,134
+200°C	8,174	8,214	8,254	8,294	8,334	8,374	8,414	8,454	8,494	8,534
+210°C	8,574	8,614	8,654	8,694	8,734	8,774	8,814	8,855	8,895	8,935
+220°C	8,975	9,015	9,056	9,096	9,136	9,176	9,217	9,257	9,297	9,338
+230°C	9,378	9,418	9,459	9,499	9,539	9,58	9,62	9,661	9,701	9,742
+240°C	9,782	9,823	9,863	9,904	9,945	9,985	10,026	10,067	10,107	10,148
+250°C	10,189	10,229	10,27	10,311	10,352	10,392	10,433	10,474	10,515	10,556
+260°C	10,597	10,637	10,678	10,719	10,76	10,801	10,842	10,883	10,924	10,965
+270°C +280°C	11,006	11,047	11,088	11,129	11,17	11,212	11,253	11,294	11,335	11,376
+280°C +290°C	11,417	11,459	11,5	11,541	11,582	11,623	11,665	11,706	11,747	11,789
+300°C	11,83	11,871	11,913	11,954	11,995	12,037	12,078	12,119 12,534	12,161 12,576	12,202
+310°C	12,244	12,285 12,7	12,327	12,368	12,41	12,451	12,493	12,534	12,576	12,617
+320°C	13,075	13,116	13,158	13,2	13,242	13,283	13,325	13,367	13,408	13,45
+330°C	13,492	13,534	13,108	13,2	13,659	13,701	13,325	13,784	13,408	13,45
+340°C	13,452	13,952	13,993	14,035	14,077	14,119	14,161	14,203	14,245	14,286
0.00	10,01	10,002	10,000	14,000	14,011	14,110	14,101	14,200	14,240	14,200





	0	1	2	3	4	5	6	7	8	9
+340°C	13,91	13,952	13.993	14,035	14,077	14,119	14,161	14,203	14,245	14,286
+350°C	14,328	14,37	14,412	14,454	14,496	14,538	14,58	14,622	14,664	14,706
+360°C	14,748	14,79	14,832	14,874	14,916	14,958	15	15,042	15,084	15,126
+370°C	15,168	15,21	15,252	15,294	15,336	15,378	15,42	15,462	15,505	15.547
+380°C	15,589	15,631	15,673	15,715	15,757	15,799	15,842	15,884	15,926	15,968
+390°C	16,01	16,052	16,095	16,137	16,179	16,221	16,263	16,306	16,348	16.39
+400°C	16,432	16,475	16,517	16,559	16,601	16,644	16,686	16,728	16,77	16,813
+410°C	16,855	16,897	16,94	16,982	17,024	17,067	17,109	17,151	17,194	17,236
+420°C	17,278	17,321	17,363	17,405	17,448	17,067	17,109	17,151	17,194	17,66
+430°C	17,702	17,744	17,787	17,405	17,872	17,914	17,957	17,999	18,041	18.084
+440°C				18,254		18,339		18,424	18,466	
+450°C	18,126	18,169 18,594	18,211		18,296		18,381	18,424	18,891	18,509
+460°C	18,551		18,636	18,678	18,721	18,764 19,189	18,806 19,231	19,274	19,316	19,359
+470°C	18,976 19,402	19,019	19,487	19,104	19,146 19,572	19,614	19,231	19,274	19,742	19,785
+480°C										
+480°C +490°C	19,827	19,87	19,912	19,955	19,998	20,04	20,083	20,125	20,168	20,211
+500°C	20,253	20,296	20,339	20,381	20,424	20,466	20,509	20,552	20,594	20,637
+510°C	20,679	21,148	21,191	20,807	21,276	20,893	20,935	21,404	21,021	21,063
+510 C +520°C	21,106									
+520°C +530°C	21,532	21,575	21,618	21,66	21,703	21,746	21,788	21,831	21,873	21,916
	21,959	22,001	22,044	22,087	22,129	22,172	22,215	22,257	22,3	22,343
+540°C	22,385	22,428	22,471	22,513	22,556	22,598	22,641	22,684	22,726	22,769
+550°C +560°C	22,812	22,854	22,897	22,94	22,982	23,025	23,067	23,11	23,153	23,195
+560°C	23,238	23,281	23,323	23,366	23,408	23,451	23,494	23,536	23,579	23,621
	0	1 22 707	2 740	3 702	22 924	5	6	7 22 062	8 24 005	9
+570°C	23,664	23,707	23,749	23,792	23,834	5 23,877	23,92	23,962	24,005	9 24,047
+570°C +580°C										
1000000	23,664	23,707	23,749	23,792	23,834	23,877	23,92	23,962	24,005	24,047
+580°C	23,664	23,707	23,749	23,792	23,834	23,877	23,92	23,962	24,005	24,047
+580°C +590°C	23,664 24,09 24,515	23,707 24,132 24,558	23,749 24,175 24,601	23,792	23,834 24,26 24,686	23,877	23,92 24,345 24,771	23,962	24,005 24,43 24,856	24,047
+580°C +590°C +600°C	23,664 24,09 24,515 24,941	23,707 24,132 24,558 24,983	23,749 24,175 24,601 25,026	23,792 24,218 24,643 25,068	23,834 24,26 24,686 25,111	23,877 24,303 24,728 25,163	23,92 24,345 24,771 25,196	23,962 24,388 24,813 25,238	24,005 24,43 24,856 25,281	24,047 24,473 24,898 25,323
+580°C +590°C +600°C +610°C	23,664 24,09 24,515 24,941 25,366	23,707 24,132 24,558 24,983 25,408	23,749 24,175 24,601 25,026 25,45	23,792 24,218 24,643 25,068 25,493	23,834 24,26 24,686 25,111 25,535	23,877 24,303 24,728 25,163 25,678	23,92 24,345 24,771 25,196 25,62	23,962 24,388 24,813 25,238 25,663	24,005 24,43 24,856 25,281 25,705	24,047 24,473 24,898 25,323 25,748
+580°C +590°C +600°C +610°C +620°C	23,664 24,09 24,515 24,941 25,366 25,79	23,707 24,132 24,558 24,983 25,408 25,832	23,749  24,175  24,601  25,026  25,45  25,875	23,792 24,218 24,643 25,668 25,493 25,917	23,834 24,26 24,686 25,111 25,535 25,96	23,877 24,303 24,728 25,163 25,578 26,002	23,92 24,345 24,771 25,196 25,62 26,044	23,962 24,388 24,813 25,238 25,663 26,087	24,005 24,43 24,856 25,281 25,705 26,129	24,047  24,473  24,898  25,323  25,748  26,171
+580°C +590°C +600°C +610°C +620°C +630°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214	23,707  24,132  24,558  24,983  25,408  25,832  26,256	23,749  24,175  24,601  25,026  25,45  25,875  26,299	23,792 24,218 24,643 25,668 25,493 25,917 26,341	23,834  24,26  24,686  25,111  25,535  25,96  26,383	23,877 24,303 24,728 25,153 25,678 26,002 26,426	23,92 24,345 24,771 25,196 25,62 26,044 26,468	23,962 24,388 24,813 25,238 25,663 26,087 26,51	24,005 24,43 24,856 25,281 25,705 26,129 26,553	24,047  24,473  24,898  25,323  25,748  26,171  25,095
+580°C +590°C +600°C +610°C +620°C +630°C +640°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722	23,792 24,218 24,643 25,068 25,493 25,917 26,341 26,764	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806	23,877 24,303 24,728 25,153 25,678 26,002 26,426 26,849	23,92 24,345 24,771 25,196 25,62 26,044 26,468 26,891	23,962 24,388 24,813 25,238 25,663 28,087 26,51 26,933	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102	23,749  24,175  24,601  25,026  25,45  26,299  26,722  27,145	23,792 24,218 24,643 25,068 25,493 25,917 26,341 26,764 27,187	23,834  24,26  24,686  25,111  25,535  25,96  26,283  26,806  27,229	23,877  24,303  24,728  25,153  25,578  26,002  25,426  26,849  27,274	23,92 24,345 24,771 25,196 25,62 26,044 26,468 26,891 27,313	23,962 24,388 24,813 25,238 25,663 26,087 26,51 26,933 27,356	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398	24,047  24,473  24,898  25,323  25,748  26,171  26,995  27,018  27,44
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,537 27,06 27,482	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567	23,792 24,218 24,643 25,068 25,493 25,917 26,341 26,764 27,187 27,609	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651	23,877  24,303  24,728  25,153  25,578  26,002  26,426  26,849  27,271  27,693	23,92 24,345 24,771 25,196 25,62 26,044 26,468 26,891 27,313 27,735	23,962 24,388 24,813 25,238 25,663 26,087 26,51 26,933 27,356 27,777	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +670°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946	23,749  24,175  24,601  25,026  25,45  26,299  26,722  27,145  27,567  27,988	23,792  24,218  24,643  25,068  25,493  25,917  26,341  26,764  27,187  27,609  28,03	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072	23,877  24,303  24,728  25,153  25,578  26,002  26,426  28,849  27,271  27,893  28,114	23,92 24,345 24,771 25,196 25,62 26,044 26,468 26,891 27,313 27,735 28,156	23,962 24,388 24,813 25,238 25,663 26,087 26,61 28,933 27,356 27,777 28,198	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,62  28,241	24,047  24,473  24,898  25,323  25,748  26,171  26,995  27,018  27,44  27,662  28,283
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +660°C +660°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,325	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409	23,792  24,218  24,643  25,068  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493	23,877 24,303 24,728 25,153 25,578 26,002 26,426 26,849 27,271 27,693 28,114 28,535	23,92 24,345 24,771 25,196 25,62 26,044 26,468 26,891 27,313 27,735 28,156 28,577	23,962 24,388 24,813 25,238 25,663 26,087 26,51 26,933 27,356 27,777 28,198 28,619	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82  28,241  28,661	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +660°C +690°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,325 28,745	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367  28,787	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409  28,829	23,792  24,218  24,643  25,068  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451  28,871	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493  28,913	23,877  24,303  24,728  25,153  25,578  26,002  26,426  26,849  27,271  27,693  28,114  28,535  28,955	23,92  24,345  24,771  25,196  25,62  26,044  26,468  26,891  27,313  27,735  28,156  28,577  28,997	23,962 24,388 24,813 25,238 25,663 26,51 26,51 26,933 27,356 27,777 28,198 28,619 29,038	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82  28,241  28,661  29,08	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703  29,122
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +660°C +660°C +690°C +700°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,325 28,745 29,164	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367  28,787  29,206	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409  28,829  29,248	23,792  24,218  24,643  25,068  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451  28,871  29,29	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493  28,913  29,332	23,877  24,303  24,728  25,153  25,578  26,002  26,426  26,849  27,271  27,693  28,114  28,535  28,955  29,374	23,92  24,345  24,771  25,196  25,62  26,044  26,468  26,891  27,313  27,735  28,156  28,577  28,997  29,415	23,962 24,388 24,813 25,238 25,663 26,51 26,51 26,933 27,356 27,777 28,198 28,619 29,038 29,457	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82  28,241  28,661  29,08  29,499	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703  29,122  29,541
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +660°C +660°C +690°C +700°C +710°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,325 28,745 29,164 29,583	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367  28,787  29,206  29,625	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409  28,829  29,248  29,666	23,792  24,218  24,643  25,068  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451  28,871  29,29  29,708	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493  28,913  29,332  29,75	23,877  24,303  24,728  25,153  25,578  26,002  26,426  26,849  27,271  27,693  28,114  28,535  28,955  29,374  29,792	23,92  24,345  24,771  25,196  25,62  26,044  26,468  26,891  27,313  27,735  28,156  28,577  28,997  29,415  29,834	23,962 24,388 24,813 25,238 25,663 26,51 26,51 26,933 27,356 27,777 28,198 28,619 29,038 29,457 29,875	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82  28,241  28,661  29,08  24,499  29,917	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703  29,122  29,641  29,959
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +660°C +690°C +700°C +710°C +720°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,325 28,745 29,164 29,583 30,001	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367  28,787  29,206  29,625  30,042	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409  28,829  29,248  29,666  30,084	23,792  24,218  24,643  25,068  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451  28,871  29,29  29,708  30,126	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493  28,913  29,322  29,75  30,167	23,877  24,303  24,728  25,163  25,578  26,002  26,426  26,849  27,271  27,693  28,114  28,535  28,955  29,374  29,792  30,209	23,92  24,345  24,771  25,196  25,82  26,044  26,468  26,891  27,313  27,735  28,156  28,577  28,997  29,415  29,834  30,251	23,962 24,388 24,813 25,238 25,663 26,087 26,51 26,933 27,356 27,777 28,198 28,619 29,038 29,457 29,875 30,292	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82  28,241  28,661  29,08  29,499  29,917  30,334	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703  29,122  29,641  29,959  30,376
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +660°C +690°C +700°C +710°C +720°C +730°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,325 28,745 29,164 29,583 30,001 30,417	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367  28,787  29,206  29,625  30,042  30,459	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409  28,829  29,248  29,666  30,084  30,501	23,792  24,218  24,643  25,668  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451  28,871  29,29  29,708  30,126  30,542	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493  28,913  29,332  29,75  30,167  30,584	23,877  24,303  24,728  25,163  25,678  26,002  26,426  26,849  27,271  27,693  28,114  28,535  28,955  29,374  29,792  30,209  30,626	23,92  24,345  24,771  25,196  25,62  26,044  26,468  26,891  27,313  27,735  28,156  28,577  28,997  29,415  29,834  30,251  30,667	23,962 24,388 24,813 25,238 25,663 26,087 26,51 26,933 27,356 27,777 28,198 28,619 29,038 23,457 29,875 30,292 30,709	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,32  28,241  28,661  29,08  29,499  29,917  30,334  30,75	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703  29,122  29,541  29,959  30,376  30,792
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +660°C +690°C +700°C +710°C +720°C +730°C +740°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,325 28,745 29,164 29,583 30,001 30,417 30,833	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367  28,787  29,206  29,625  30,042  30,459  30,875	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409  28,829  29,248  29,666  30,084  30,501  30,917	23,792  24,218  24,643  25,068  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451  28,871  29,29  29,708  30,126  30,542  30,958	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493  28,913  29,75  30,167  30,584  31	23,877  24,303  24,728  25,163  25,578  26,002  26,426  26,849  27,271  27,693  28,114  28,535  28,955  29,374  29,792  30,209  30,626  31,041	23,92  24,345  24,771  25,196  25,82  26,044  26,468  26,891  27,313  27,735  28,156  28,577  28,997  29,415  29,834  30,251  30,667  31,083	23,962  24,388  24,813  25,238  25,663  26,087  26,51  26,933  27,356  27,777  28,198  28,619  29,038  29,457  29,875  30,292  30,709  31,124	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82  28,241  28,661  29,08  29,499  29,917  30,334  30,75  31,166	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703  29,122  29,541  29,959  30,376  30,792  31,207
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +660°C +670°C +700°C +710°C +720°C +730°C +740°C +750°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,325 28,745 29,164 29,583 30,001 30,417 30,833 31,249	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367  28,787  29,206  29,625  30,042  30,459  30,875  31,29	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409  28,829  29,248  29,666  30,084  30,501  30,917  31,332	23,792  24,218  24,643  25,668  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451  28,871  29,29  29,708  30,126  30,542  30,958  31,373	23,834  24,26  24,686  25,111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493  28,913  29,75  30,167  30,584  31  31,414	23,877  24,303  24,728  25,163  25,678  26,002  26,426  26,849  27,271  27,693  28,114  28,535  28,955  29,374  29,792  30,209  30,626  31,041  31,456	23,92  24,345  24,771  25,196  25,62  26,044  26,468  26,891  27,313  27,735  28,156  28,577  28,997  29,415  29,834  30,251  30,667  31,083  31,497	23,962  24,388  24,813  25,238  25,663  26,087  26,51  26,933  27,356  27,777  28,198  28,619  29,038  29,457  29,875  30,292  30,709  31,124  31,539	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82  28,241  28,661  29,08  29,499  29,499  30,334  30,75  31,166  31,58	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703  29,122  29,541  29,959  30,376  30,792  31,207  31,622
+580°C +590°C +600°C +610°C +620°C +630°C +640°C +650°C +660°C +670°C +680°C +700°C +710°C +720°C +730°C +740°C +750°C +750°C +750°C +760°C	23,664 24,09 24,515 24,941 25,366 25,79 26,214 26,637 27,06 27,482 27,904 28,225 28,745 29,164 29,583 30,001 30,417 30,833 31,249 31,663	23,707  24,132  24,558  24,983  25,408  25,832  26,256  26,68  27,102  27,524  27,946  28,367  28,787  29,206  29,625  30,042  30,459  30,875  31,29  31,704	23,749  24,175  24,601  25,026  25,45  25,875  26,299  26,722  27,145  27,567  27,988  28,409  28,829  29,248  29,666  30,084  30,501  30,917  31,332  31,746	23,792  24,218  24,643  25,668  25,493  25,917  26,341  26,764  27,187  27,609  28,03  28,451  28,871  29,29  29,708  30,126  30,542  30,958  31,373  31,787	23,834  24,26  24,686  25,1111  25,535  25,96  26,383  26,806  27,229  27,651  28,072  28,493  28,913  29,332  29,75  30,167  30,584  31  31,414  31,828	23,877  24,303  24,728  25,163  25,678  26,002  26,426  26,849  27,271  27,693  28,114  28,535  28,955  29,374  29,792  30,209  30,626  31,041  31,456  31,87	23,92  24,345  24,771  25,196  25,62  26,044  26,468  26,891  27,313  27,735  28,156  28,577  28,997  29,415  29,834  30,251  30,667  31,083  31,497  31,911	23,962  24,388  24,813  25,238  25,663  26,087  26,51  26,333  27,356  27,777  28,198  28,619  23,038  29,457  29,875  30,292  30,709  31,124  31,539  31,952	24,005  24,43  24,856  25,281  25,705  26,129  26,553  26,976  27,398  27,82  28,241  28,661  29,08  29,499  29,499  30,334  30,75  31,166  31,58  31,994	24,047  24,473  24,898  25,323  25,748  26,171  26,595  27,018  27,44  27,862  28,283  28,703  29,122  29,641  29,959  30,376  30,792  31,207  31,622  32,035





	0	1	2	3	4	5	6	7	8	9
+800°C	33,311	33,352	33,393	33,434	33,475	33,515	33,556	33,597	33,638	33,679
+810°C	33,72	33,761	33,802	33,843	33,884	33,924	33,965	34,006	34,047	34,088
+820°C	34,129	34,169	34,21	34,251	34,292	34,333	34,373	34,414	34,455	34,495
+830°C	34,536	34,577	34,618	34,658	34,699	34,74	34,78	34,821	34,862	34,902
+840°C	34,943	34,983	35,024	35,065	35,105	35,146	35,186	35,227	35,267	35,308
+850°C	35,348	35,389	35,429	35,47	35,51	35,551	35,591	35,632	35,672	35,712
+860°C	35,753	35,793	35,834	35,874	35,914	35,955	35,995	36,035	36,076	36,116
+870°C	36,156	36,197	36,237	36,277	36,318	36,358	36,398	36,438	36,479	36,519
+880°C	36,559	36,599	36,639	36,68	36,72	36,76	36,8	36,84	36,88	36,92
+890°C	36,961	37,001	37,041	37,081	37,121	37,161	37,201	37,241	37,281	37,321
+900°C	37 361	37,401	37,441	37 481	37,521	37,561	37 601	37,641	37,681	37,721
+910°C	37,761	37,801	37.84	37.88	37.92	37.96	38	38.04	38.08	38,119
+920°C	38.159	38.199	38 239	38 279	38.318	38,358	38 398	38,438	38.477	38.517
+930°C	38.557	38.596	38.636	38.676	38,715	38,755	38.795	38,834	38.874	38,914
+940°C	38,953	38,993	39,032	39,072	39,112	39,151	39,191	39,23	39,27	39,309
+950°C	39,349	39,388	39,428	39,467	39,507	39,546	39,586	39,625	39,664	39,704
+960°C	39,743	39,783	39,822	39,861	39,901	39,94	39,979	40,019	40,058	40,097
+970°C	40,137	40,176	40,215	40,254	40,294	40,333	40,372	40,411	40,451	40,49
+980°C	40,529	40,568	40,607	40,647	40,686	40,725	40,764	40,803	40,842	40,881
+990°C	40,92	40,96	40,999	41,038	41,077	41,116	41,155	41,194	41,233	41,272
+1000°C	41,311	41,35	41,389	41,428	41,467	41,506	41,545	41,583	41,622	41,661
+1010°C	41,7	41,739	41,778	41,817	41.856	41,894	41,933	41,972	42,011	42,05
+1020°C	42.088	42,127	42.166	42.205	42.243	42.282	42,321	42,359	42.398	42.437
	0	1	2	3	4	5	6	7	8	9
+1030°C	42,475	42.514	42,553	42.591	42.63	42.669	42,707	42,746	42.784	42.823
+1040°C	42.862	42,9	42,939	42,977	43,016			43,131		
+1050°C	100000000000000000000000000000000000000					43 054			43 17	43 208
+1060°C	43 246	43 285	43 323			43,054	43,093		43,17	43,208
	43,246	43,285	43,323	43,362	43,4	43,439	43,477	43,515	43,554	43,592
	43,63	43,669	43,707	43,362 43,745	43,4 43,783	43,439 43,822	43,477 43,86	43,515 43,898	43,554 43,937	43,592 43,975
+1070°C	43,63 44,013	43,669 44,051	43,707 44,089	43,362 43,745 44,128	43,4 43,783 44,166	43,439 43,822 44,204	43,477 43,86 44,242	43,515 43,898 44,28	43,554 43,937 44,318	43,592 43,975 44,356
+1070°C +1080°C	43,63	43,669 44,051 44,433	43,707 44,089 44,471	43,362 43,745 44,128 44,509	43,783 44,166 44,547	43,439 43,822 44,204 44,585	43,477 43,86 44,242 44,623	43,515 43,898	43,554 43,937 44,318 44,699	43,592 43,975
+1070°C +1080°C +1090°C	43,63 44,013 44,394	43,669 44,051	43,707 44,089	43,362 43,745 44,128	43,4 43,783 44,166	43,439 43,822 44,204	43,477 43,86 44,242	43,515 43,898 44,28 44,661	43,554 43,937 44,318	43,592 43,975 44,356 44,737
+1070°C +1080°C	43,63 44,013 44,394 44,775	43,669 44,051 44,433 44,813	43,707 44,089 44,471 44,851 45,23	43,362 43,745 44,128 44,509 44,889	43,4 43,783 44,166 44,547 44,927	43,439 43,822 44,204 44,585 44,965	43,477 43,86 44,242 44,623 45,002	43,515 43,898 44,28 44,661 45,04 45,419	43,554 43,937 44,318 44,699 45,078	43,592 43,975 44,356 44,737 45,116
+1070°C +1080°C +1090°C +1100°C	43,63 44,013 44,394 44,775 45,154	43,669 44,051 44,433 44,813 45,192	43,707 44,089 44,471 44,851	43,362 43,745 44,128 44,509 44,889 45,267	43,4 43,783 44,166 44,547 44,927 45,305	43,439 43,822 44,204 44,585 44,965 45,343	43,477 43,86 44,242 44,623 45,002	43,515 43,898 44,28 44,661 45,04	43,554 43,937 44,318 44,699 45,078 45,456	43,592 43,975 44,356 44,737 45,116 45,494
+1070°C +1080°C +1090°C +1100°C +1110°C	43,63 44,013 44,394 44,775 45,154 45,532 45,908	43,669 44,051 44,433 44,813 45,192 45,57 45,946	43,707 44,089 44,471 44,851 45,23 45,607 45,984	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021	43,4 43,783 44,166 44,547 44,927 45,305 45,683 46,069	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171	43,554 43,937 44,318 44,699 45,078 45,456 45,833 46,209	43,592 43,375 44,356 44,737 45,116 45,494 45,871 46,246
+1070°C +1080°C +1090°C +1100°C +1110°C +11120°C	43,63 44,013 44,394 44,775 45,154 45,532	43,669 44,051 44,433 44,813 45,192 45,57	43,707 44,889 44,471 44,851 45,23 45,607	43,362 43,745 44,128 44,509 44,889 45,267 45,645	43,4 43,783 44,166 44,547 44,927 45,305 45,683	43,439 43,822 44,204 44,585 44,965 45,343 45,72	43,477 43,86 44,242 44,623 45,002 45,381 45,768	43,515 43,898 44,28 44,661 45,04 45,419 45,796	43,954 43,937 44,318 44,699 45,078 45,456 45,833	43,592 43,975 44,356 44,737 45,116 45,494 45,871
+1070°C +1080°C +1090°C +1100°C +1110°C +11120°C +1130°C	43,63 44,013 44,394 44,775 45,154 45,532 45,908 46,284 46,658	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695	43,707 44,889 44,471 44,881 45,23 45,607 45,984 46,359	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77	43,4 43,783 44,166 44,547 44,927 45,305 45,683 46,059 46,434 46,807	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919	43,554 43,937 44,318 44,699 45,078 45,456 45,833 46,209 46,583 46,966	43,592 43,975 44,356 44,737 45,116 45,494 45,871 46,246 46,621 46,993
+1070°C +1080°C +1090°C +1100°C +1110°C +1120°C +1130°C +1140°C	43,63 44,013 44,394 44,775 45,154 45,532 45,908 46,284	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321	43,707 44,889 44,471 44,851 45,23 45,607 45,984 46,359	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396	43,4 43,783 44,166 44,547 44,927 45,305 45,683 46,059	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508	43,515 43,898 44,28 44,661 45,04 45,419 45,796 48,171 46,546	43,554 43,937 44,318 44,699 45,078 45,456 45,833 46,209 46,583	43,592 43,975 44,356 44,737 45,116 45,494 45,871 46,246 46,621
+1070°C +1080°C +1090°C +1100°C +1110°C +1120°C +1130°C +1140°C +1150°C	43,63 44,013 44,394 44,775 45,154 45,532 45,908 46,284 46,658 47,031	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695 47,068	43,707 44,889 44,471 44,881 45,23 45,607 45,984 46,359 46,733 47,105	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142	43,4 43,783 44,166 44,547 44,927 45,305 45,883 46,059 46,434 46,807 47,179	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,217	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882 47,254	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919 47,291	43,554 43,937 44,699 45,078 45,456 45,833 46,209 46,583 46,966 47,328	43,592 43,975 44,356 44,737 45,116 45,494 45,871 46,246 46,621 46,993 47,365
+1070°C +1080°C +1090°C +1100°C +1110°C +1120°C +1130°C +1140°C +1150°C +1160°C	43,63 44,913 44,739 44,776 45,154 45,532 45,988 46,284 46,658 47,031 47,402	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,921 46,695 47,068 47,439	43,707 44,889 44,471 44,881 45,23 45,607 45,984 46,359 46,733 47,105 47,476	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142 47,513	43,4 43,783 44,166 44,547 44,927 45,305 45,883 46,059 46,434 46,807 47,179 47,55	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,247 47,587	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882 47,254 47,624	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919 47,291 47,661	43,554 43,937 44,699 45,078 45,456 45,833 46,209 46,583 46,583 46,586 47,328 47,698	43,592 43,975 44,356 44,737 45,116 45,494 45,871 46,246 46,821 46,893 47,365 47,735
*1070°C *1080°C *1090°C *1100°C *1110°C +1120°C *1130°C *1140°C *1150°C *1160°C *1170°C	43,63 44,913 44,739 44,776 45,154 45,532 45,908 46,284 46,658 47,031 47,402 47,772	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695 47,068 47,439 47,809	43,707 44,089 44,471 44,851 45,23 45,607 45,984 46,399 46,733 47,105 47,476 47,846	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142 47,513 47,883	43,4 43,783 44,166 44,547 44,927 45,305 45,883 46,059 46,434 46,807 47,179 47,55 47,92	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,217 47,587 47,957	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882 47,254 47,624 47,993	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 48,919 47,291 47,661 48,03	43,554 43,937 44,699 45,078 45,456 45,833 46,209 46,583 46,956 47,328 47,698 48,067	43,592 43,375 44,356 44,737 45,116 45,494 45,871 46,246 46,821 46,993 47,385 47,735 48,104
+1070°C +1080°C +1090°C +1100°C +1110°C +1110°C +1130°C +1140°C +1150°C +1160°C +1170°C +1180°C +1180°C	43,63 44,013 44,739 44,776 45,154 45,532 45,908 46,284 46,658 47,031 47,402 47,772 48,141	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695 47,068 47,439 47,809 48,177	43,707 44,089 44,471 44,851 45,23 45,607 45,984 46,389 46,733 47,105 47,476 47,846 48,214	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142 47,513 47,883 48,251	43,4 43,783 44,166 44,547 44,927 45,305 45,883 46,059 46,434 46,807 47,179 47,55 47,92 48,288	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,217 47,587 47,957 48,324	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882 47,254 47,624 47,993 48,361	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919 47,291 47,661 48,03 48,338	43,554 43,937 44,318 44,699 45,078 45,456 45,833 46,209 46,583 46,956 47,328 47,698 48,067 48,434	43,592 43,375 44,356 44,737 45,116 45,494 45,871 46,246 46,821 46,993 47,385 47,735 48,104 48,471
+1070°C +1080°C +1100°C +1110°C +1110°C +1110°C +1140°C +1140°C +1150°C +1160°C +1180°C +1180°C +1190°C	43,63 44,013 44,739 44,776 45,154 45,532 45,908 46,258 47,031 47,402 47,772 48,141 48,508	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695 47,068 47,439 47,809 48,177 48,544	43,707 44,089 44,471 44,851 45,23 45,607 45,984 46,389 46,733 47,105 47,476 47,846 48,214 48,581	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142 47,513 47,883 48,251 48,618	43,4 43,783 44,166 44,547 44,927 45,305 45,683 46,059 46,434 46,807 47,179 47,55 47,92 48,288 48,654	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,217 47,587 47,957 48,324 48,691	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882 47,254 47,624 47,993 48,361 48,727	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919 47,291 47,661 48,03 48,338 48,764	43,554 43,937 44,699 45,078 45,456 45,833 46,209 46,583 46,956 47,328 47,698 48,067 48,434 48,8	43,592 43,375 44,356 44,737 45,116 45,494 45,871 46,246 46,821 46,993 47,385 47,735 48,104 48,474 48,837
+1070°C +1080°C +1100°C +1110°C +1110°C +1110°C +1140°C +1150°C +1150°C +1170°C +1180°C +1190°C +1190°C +1200°C	43,63 44,013 44,394 44,776 45,154 45,592 45,998 46,284 46,658 47,031 47,402 47,772 48,141 48,598 48,873	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695 47,068 47,439 47,809 48,177 48,544 48,91	43,707 44,089 44,471 44,851 45,23 45,607 45,984 46,359 46,733 47,105 47,476 47,846 48,214 48,581 48,946	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142 47,513 47,883 48,251 48,618 48,983	43,4 43,783 44,166 44,547 44,547 45,305 45,683 46,059 46,434 46,807 47,179 47,55 47,92 48,288 48,654 49,019	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,217 47,587 47,957 48,324 48,691 49,066	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882 47,254 47,624 47,993 48,361 48,727 49,092	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919 47,291 47,661 48,03 48,398 48,764 49,129	43,554 43,937 44,318 44,699 45,078 45,456 45,833 46,209 46,583 46,966 47,328 47,698 48,067 48,434 45,8	43,592 43,375 44,356 44,737 45,116 45,494 45,871 46,246 46,521 46,993 47,365 47,735 48,104 48,471 48,837 49,201
+1070°C +1080°C +1100°C +1110°C +1110°C +1110°C +1140°C +1150°C +1150°C +1160°C +1170°C +1180°C +1190°C +1210°C +1210°C +1210°C	43,63 44,013 44,394 44,776 45,154 45,532 45,908 46,284 46,658 47,031 47,402 47,772 48,141 48,508 48,873 49,238	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695 47,068 47,439 48,177 48,544 48,91 49,274	43,707 44,889 44,471 44,851 45,23 45,607 45,984 46,389 46,733 47,105 47,476 47,846 48,214 48,581 48,946 49,31	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142 47,513 47,883 48,251 48,618 48,983 49,347	43,4 43,783 44,166 44,547 44,527 45,305 45,683 46,059 46,434 46,807 47,179 47,55 47,92 48,288 48,654 49,019	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,217 47,587 47,957 48,324 48,691 49,056 49,419	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882 47,254 47,624 47,993 48,361 48,727 49,092 49,455	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919 47,291 47,661 48,03 48,398 48,764 49,129 49,492	43,554 43,937 44,639 45,078 45,456 45,833 46,209 46,583 46,956 47,328 47,638 48,067 48,434 49,165 49,165	43,592 43,375 44,356 44,737 45,116 45,494 45,871 46,246 46,821 46,993 47,365 47,735 48,104 48,471 48,837 49,201 49,564
+1070°C +1080°C +1109°C +1110°C +1110°C +1110°C +1140°C +1150°C +1160°C +1170°C +1180°C +1190°C +1200°C +1210°C +1220°C +1220°C	43,63 44,013 44,394 44,776 45,154 45,532 45,908 46,284 46,658 47,031 47,402 47,772 48,141 48,608 48,873 49,238 49,6	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695 47,068 47,439 47,809 48,177 48,544 48,91 49,274 49,636 49,997	43,707 44,889 44,471 44,851 45,23 45,607 45,984 46,389 46,733 47,105 47,476 47,846 48,214 48,581 48,946 49,31 49,673 50,033	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142 47,513 47,883 48,251 48,618 49,983 49,247 49,709 50,069	43,4 43,783 44,166 44,547 44,527 45,305 45,683 46,059 46,434 46,807 47,179 47,55 47,92 48,288 48,654 49,019 49,383 49,745 50,105	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,217 47,587 47,957 48,324 48,691 49,056 49,419 49,781 50,141	43,477 43,86 44,242 44,623 45,002 45,381 45,768 46,134 46,508 46,882 47,254 47,824 47,993 48,361 48,727 49,092 49,455 49,817 50,177	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919 47,291 47,661 48,03 48,398 48,764 49,129 49,492 49,492 49,853 50,213	43,554 43,937 44,639 45,078 45,456 45,833 46,209 46,583 46,956 47,328 47,638 48,956 47,328 47,638 48,956 47,328 48,956 47,328 48,956 47,328 48,956 47,328 48,956 48,956 49,958 48,958 49,958 40,958 40,958 40,958 40,958 40,958 40,958 40,958	43,592 43,975 44,356 44,737 45,116 45,494 45,871 46,246 46,621 46,993 47,365 47,735 48,104 48,471 48,837 49,201 49,564 49,925 50,285
+1070°C +1080°C +1109°C +1110°C +1110°C +1110°C +1140°C +1150°C +1150°C +1170°C +1180°C +1190°C +1200°C +1210°C +1220°C +1230°C +1230°C	43,63 44,013 44,394 44,776 45,154 45,532 45,908 46,284 46,658 47,031 47,402 47,772 48,141 48,608 48,873 49,238 49,681	43,669 44,051 44,433 44,813 45,192 45,57 45,946 46,321 46,695 47,068 47,439 48,177 48,544 48,91 49,274 49,636	43,707 44,889 44,471 44,851 45,23 45,607 45,984 46,389 46,733 47,105 47,476 47,846 48,214 48,581 48,946 49,31	43,362 43,745 44,128 44,509 44,889 45,267 45,645 46,021 46,396 46,77 47,142 47,513 47,883 48,251 48,618 48,983 49,347 49,709	43,4 43,783 44,166 44,547 44,547 45,305 45,683 46,059 46,434 46,807 47,179 47,55 47,92 48,288 48,554 49,019 49,383 49,745	43,439 43,822 44,204 44,585 44,965 45,343 45,72 46,096 46,471 46,844 47,217 47,587 47,957 48,324 48,691 49,056 49,419 49,781	43,477 43,86 44,242 44,623 45,002 45,381 45,758 46,134 46,508 46,882 47,254 47,624 47,993 48,361 48,727 49,092 49,455 49,817	43,515 43,898 44,28 44,661 45,04 45,419 45,796 46,171 46,546 46,919 47,291 47,661 48,03 48,38 48,764 49,129 49,492 49,853	43,554 43,937 44,699 45,078 45,456 45,833 46,209 46,583 46,583 46,583 46,583 47,328 47,698 48,067 48,434 49,165 49,528 49,165	43,592 43,975 44,356 44,737 45,116 45,494 45,871 46,246 46,621 46,993 47,365 47,735 48,104 48,471 48,837 49,201 49,564 49,925