Analisi per l'affidabilità del metodo dimensionale per la determinazione dei coefficienti Kq, come previsto nella norma UNI 10200, al momento in inchiesta pubblica (documento E0208F600)

Totale numero di radiatori analizzati: 1.251

Analisi eseguita da: IGE – Facoltà di Termotecnica dell'Università di Stoccarda – "testing laboratory certified by ISO IEC 17025" – laboratorio accreditato

Riassunto dei margini d'errore certificati riscontrati nell'analisi, confrontando potenze termiche conosciute con quelle calcolate secondo il metodo dimensionale della norma UNI 10200 in inchiesta pubblica.

Tipi di radiatori come definiti nel prospetto C.1 della norma UNI (vedi appendice).

	In ghisa					Ghisa o acciaio	Piastre di ghisa		Alluminio			Acciaio			
Tipo	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	
Numero radiatori	130	120	192	118	208	33	69	86	30	22	132	43	21	47	1.251
Deviazione da %	-25	+6	+21	-17	-21	+71	-22	-14	+23	-12	-47	-32	+19	-32	
Deviazione a %	+44	+69	+90	+77	+103	+125	-14	+43	+36	+14	-16	+37	+29	-11	

La tabella riassume i margini d'errore riscontrati e certificati nell'analisi, confrontando i valori ottenuti con il "metodo dimensionale" con i valori termici conosciuti (come previsti dalla UNI EN 834 e 835)

Altri tipi di radiatori molto frequentemente installati negli edifici come, termoarredi (scaldasalviette ecc..), tubolari in acciaio, a lamelle, convettori, ecc., ecc., non sono stati analizzati perché non previsti dal prospetto 1 della norma UNI 10200 per il metodo dimensionale, escludendoli quindi per definizione dalla metodologia.

Conclusioni/Riassunto:

L'analisi sui radiatori analizzati da parte del laboratorio accreditato certifica che :

1. Per i tipi di radiatori da 1 a 8 il 68% mostrano una deviazione superiore al +- 15% e più del 51% deviazioni superiori al + -20%. (range deviazioni: da -25% fino a + 125%)

2. Per i tipi di radiatori da 9 a 14 il 84% mostrano una deviazione superiore al +- 20% e più del 16% deviazioni superiori al + - 40%. (range deviazioni: da -47% fino a +37%)

3. Sul totale dei radiatori analizzati (tipi da 1 a 14) il 73% mostrano deviazioni superiori a + - 15% e più del 59% superiori al + - 20%. (range deviazioni da -47% fino a 125%)

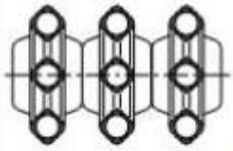
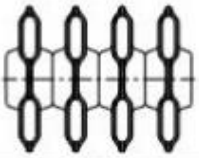
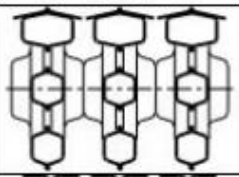
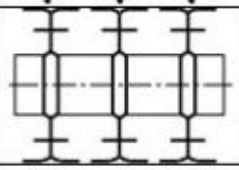
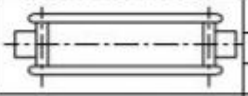
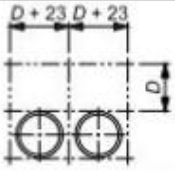
Come già comunicato più volte in diverse sedi competenti, con questa analisi ufficiale, ora anche certificata da laboratorio accreditato, si vuole evidenziare l'assoluta *non* affidabilità del "metodo dimensionale" per la determinazione delle potenze termiche e quindi il fattore kq per i ripartitori per costi di riscaldamento. Errori fatti nella determinazione della potenza termica dei singoli radiatori installati in un'utenza quasi certamente portano allo stesso errore nel rilevamento dei consumi e quindi nei costi per il riscaldamento attribuiti all'utenza alla fine dell'esercizio.

Inoltre si vuole evidenziare che la valutazione di errori nelle analisi delle metodologie è in diretta dipendenza dal numero, tipo e dimensioni dei radiatori analizzati nello studio.

Allegati:

- prospetto C.1 della Norma 10200 (E0208F600)
- Analisi e certificazione dell'Università di Stoccarda

Prospetto C.1 - Valori del coefficiente *k* per differenti tipologie di corpi scaldanti (validi per spessori dei mozzi compresi tra 50 e 60 mm)

Materiale	Tipologia	Descrizione		k [W/m^3][1)]	Tipologia
Ghisa		Colonne piccole (sezione ≤ 30 × 30 mm)	mozzo 50 mm	18000	1
			mozzo 55 mm	16900	2
			mozzo 60 mm[2)]	15500	3
		Colonne grandi (sezione > 30 × 30 mm)	mozzo 55 mm	18600	4
			mozzo 60 mm	17600	5
Ghisa o Acciaio		Colonne unite da diaframma		16900	6
Piastre di Ghisa		Colonne lisce		20300	7
		Colonne alettate		21400	8
Alluminio		Molto alettato		28100	9
		Mediamente alettato		24800	10
		Poco alettato		21400	11
Acciaio		Piastra senza alettatura		20300	12
		Con alettatura posteriore		23600	13
		Con alettatura fra i ranghi		22500	14
Tubo nudo[3)]		Tubi verticali od orizzontali		7000	15

[1)] Dati ricavati sperimentalmente per differenti tipologie di corpi scaldanti. *k* è funzione quasi esclusiva della forma ed in misura trascurabile del materiale.

[2)] Il mozzo 60 mm porta ad un lieve incremento del calore radiante, ma incrementa in modo trascurabile la parte convettiva, che non è proporzionale all'aumento di volume.

[3)] Nel caso di tubo nudo (tubazioni di pertinenza nei locali assimilabili a corpi scaldanti fittizi) devono essere utilizzate le seguenti dimensioni:

- altezza del corpo scaldante (*h*) = altezza del tubo, [m];
- larghezza del corpo scaldante (*l*) = (*D* + 23) / 1000, [m];
- profondità del corpo scaldante (*p*) = *D* / 1000, [m];

dove *D* è il diametro del tubo espresso in millimetri.

IGE

Institut für
GebäudeEnergetik

Lehrstuhl für
Heiz- und
Raumlufttechnik

Sachverständige Stelle A1
für Heizkostenverteiler

UNI 10200
Comparison of Radiator Heat Outputs

Report no. TG16 H011 ANCCA

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Stuttgart, 09. June 2016

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Content

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1 Task

The UNI 10200 is used to determine the heat output of radiators with an approximation method only if there are no reports or catalog data available. The client provided the contractor more than 1.000 records to compare the heat output deviation between the catalog data and the UNI 10200. The associated catalog data were also provided to the contractor.

The task of the contractor was to check, if the UNI 10200 values were correctly determined and whether the catalog data were compared correctly with UNI 10200.

The contractor used the records and consequently the discrepancies of both methods of determination with an extensive sample to especially compare the differences between the catalog data (reference) and the values of UNI 10200. This indicates that positive deviations mean that the heat output are higher than the catalog data and accordingly also in reverse.

2 Results

The sampling considers all listed radiator subtypes in the context of comparison out of more than 40 different radiator families.

The largest deviations are at sectional radiators with smaller length (only consisting a few elements) of the type 1~8 within the meaning of the UNI 10200. This applies to the comparison with data from old catalogs as well as results of tests according to EN 442-2. Normally sectional radiators are tested with a length of 10 elements and the results are reported in W / element and therefore also apply to radiators with e. g. only 2 elements.

The same applies to the panel radiators type 12~14 with smaller length, which are examined usually with a length of 1,0 m and whose heat output is then reported in W / m.

For buildings with various radiator types this means that the deviations between heat output out of older catalog data respectively EN 442-2 and heat output out of UNI 10200 in particular for radiators of smaller length – less than 10 elements respectively less than 1 meter – would bare large deviations followed by an increase of the allocation errors in heating costs in the relevant property.

Further there are big deviations for element radiators with a big pitch (length of an element). This is caused by an overrating by UNI 10200. Again in particular radiators with few elements are affected.

Based on the above mentioned large sampling the deviations shown in the tables in the appendix 3.1 to 3.14 are confirmed.

3 Annex

Legend:

2	Reference number
3	Producer / Model
4	Number of elements
5	Watt per element ΔT 60 (90/70/20) (on plate radiators -> type)
6	Length (l) of the radiator in m
7	Height (h) of the radiator in m
8	Depth (p) of the radiator in m
9	Watt of the radiator ΔT 60 (90/70/20) based on tecnical data sheets
10	Calculated watt based on the dimensional method UNI10200 ΔT 60 (90/70/20)
	ΔT 60 = 314 * S + k *V
11	Differece in % between tecnical data sheets (EN442) and UNI10200
12	Coefficient (k)
	according to the table of the "prospetto C1" of the UNI 10200 (E0208F600)
13	Surface of the radiator
	(S) = 2*h*l+2*p*l+2*p*h
14	Volume of the radiator
	(V)=h*p*l
15	Type of radiator
	according to the table of the "prospetto C1" of the UNI 10200 (E0208F600)

3.1 Comparative values for radiators of type 1 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elet	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
5...1275	Strebel Favo (2) 2055	1	59,66	0,050	0,555	0,060	60	70	**18**	%	18000	0,12810	0,001665	1
5...1275	Strebel Favo (2) 2055	3	59,66	0,150	0,555	0,060	179	169	**-6**	%	18000	0,25110	0,004995	1
5...1275	Strebel Favo (2) 2055	4	59,66	0,200	0,555	0,060	239	218	**-9**	%	18000	0,31260	0,006660	1
5...1275	Strebel Favo (2) 2055	5	59,66	0,250	0,555	0,060	298	267	**-10**	%	18000	0,37410	0,008325	1
5...1275	Strebel Favo (2) 2055	6	59,66	0,300	0,555	0,060	358	317	**-12**	%	18000	0,43560	0,009990	1
5...1275	Strebel Favo (2) 2055	7	59,66	0,350	0,555	0,060	418	366	**-12**	%	18000	0,49710	0,011655	1
5...1275	Strebel Favo (2) 2055	8	59,66	0,400	0,555	0,060	477	415	**-13**	%	18000	0,55860	0,013320	1
5...1275	Strebel Favo (2) 2055	9	59,66	0,450	0,555	0,060	537	464	**-14**	%	18000	0,62010	0,014985	1
5...1275	Strebel Favo (2) 2055	10	59,66	0,500	0,555	0,060	597	514	**-14**	%	18000	0,68160	0,016650	1
5...1275	Strebel Favo (2) 2055	11	59,66	0,550	0,555	0,060	656	563	**-14**	%	18000	0,74310	0,018315	1
5...1275	Strebel Favo (2) 2055	14	59,66	0,700	0,555	0,060	835	711	**-15**	%	18000	0,92760	0,023310	1
5...474	Ribe - Rio S	1	83	0,052	0,572	0,105	83	116	**41**	%	18000	0,19053	0,003123	1
5...474	Ribe - Rio S	2	83	0,104	0,572	0,105	165	194	**18**	%	18000	0,26094	0,006246	1
5...474	Ribe - Rio S	3	83	0,156	0,572	0,105	248	273	**10**	%	18000	0,33134	0,009369	1
5...474	Ribe - Rio S	4	83	0,208	0,572	0,105	330	351	**6**	%	18000	0,40175	0,012492	1
5...479	src radior	1	90,8	0,050	0,285	0,210	91	107	**18**	%	18000	0,16920	0,002993	1
5...479	src radior	4	90,8	0,200	0,285	0,210	363	315	**-13**	%	18000	0,31770	0,011970	1
5...479	src radior	5	90,8	0,250	0,285	0,210	454	385	**-15**	%	18000	0,36720	0,014963	1
5...479	src radior	6	90,8	0,300	0,285	0,210	545	454	**-17**	%	18000	0,41670	0,017955	1
5...479	src radior	7	90,8	0,350	0,285	0,210	636	523	**-18**	%	18000	0,46620	0,020948	1
5...479	src radior	8	90,8	0,400	0,285	0,210	726	593	**-18**	%	18000	0,51570	0,023940	1
5...479	src radior	9	90,8	0,450	0,285	0,210	817	662	**-19**	%	18000	0,56520	0,026933	1
5...479	src radior	10	90,8	0,500	0,285	0,210	908	732	**-19**	%	18000	0,61470	0,029925	1
5...479	src radior	11	90,8	0,550	0,285	0,210	999	801	**-20**	%	18000	0,66420	0,032918	1
5...479	src radior	12	90,8	0,600	0,285	0,210	1090	870	**-20**	%	18000	0,71370	0,035910	1
5...479	src radior	13	90,8	0,650	0,285	0,210	1180	940	**-20**	%	18000	0,76320	0,038903	1
5...479	src radior	14	90,8	0,700	0,285	0,210	1271	1009	**-21**	%	18000	0,81270	0,041895	1
5...479	src radior	15	90,8	0,750	0,285	0,210	1362	1079	**-21**	%	18000	0,86220	0,044888	1
5...479	src radior	16	90,8	0,800	0,285	0,210	1453	1148	**-21**	%	18000	0,91170	0,047880	1
5...479	src radior	17	90,8	0,850	0,285	0,210	1544	1218	**-21**	%	18000	0,96120	0,050873	1
5...479	src radior	18	90,8	0,900	0,285	0,210	1634	1287	**-21**	%	18000	1,01070	0,053865	1
5...479	src radior	19	90,8	0,950	0,285	0,210	1725	1356	**-21**	%	18000	1,06020	0,056858	1
5...479	src radior	20	90,8	1,000	0,285	0,210	1816	1426	**-21**	%	18000	1,10970	0,059850	1
5...479	src radior	21	90,8	1,050	0,285	0,210	1907	1495	**-22**	%	18000	1,15920	0,062843	1
5...479	src radior	22	90,8	1,100	0,285	0,210	1998	1565	**-22**	%	18000	1,20870	0,065835	1
5...479	src radior	23	90,8	1,150	0,285	0,210	2088	1634	**-22**	%	18000	1,25820	0,068828	1
5...479	src radior	24	90,8	1,200	0,285	0,210	2179	1703	**-22**	%	18000	1,30770	0,071820	1
5...479	src radior	25	90,8	1,250	0,285	0,210	2270	1773	**-22**	%	18000	1,35720	0,074813	1
5...479	src radior	26	90,8	1,300	0,285	0,210	2361	1842	**-22**	%	18000	1,40670	0,077805	1
5...479	src radior	27	90,8	1,350	0,285	0,210	2452	1912	**-22**	%	18000	1,45620	0,080798	1
5...479	src radior	28	90,8	1,400	0,285	0,210	2542	1981	**-22**	%	18000	1,50570	0,083790	1
5...479	src radior	29	90,8	1,450	0,285	0,210	2633	2050	**-22**	%	18000	1,55520	0,086783	1
5...474	Ribe - Rio S	1	97	0,052	0,690	0,105	97	139	**44**	%	18000	0,22758	0,003767	1
5...474	Ribe - Rio S	2	97	0,104	0,690	0,105	193	233	**21**	%	18000	0,31026	0,007535	1
5...474	Ribe - Rio S	3	97	0,156	0,690	0,105	290	327	**13**	%	18000	0,39294	0,011302	1
5...474	Ribe - Rio S	4	97	0,208	0,690	0,105	386	421	**9**	%	18000	0,47562	0,015070	1
5...474	Ribe - Rio S	5	97	0,260	0,690	0,105	483	514	**7**	%	18000	0,55830	0,018837	1
5...1275	Strebel Favo (2) 2055	1	98,39	0,050	0,955	0,060	98	119	**21**	%	18000	0,21610	0,002865	1
5...1275	Strebel Favo (2) 2055	2	98,39	0,100	0,955	0,060	197	203	**3**	%	18000	0,31760	0,005730	1
5...1275	Strebel Favo (2) 2055	3	98,39	0,150	0,955	0,060	295	286	**-3**	%	18000	0,41910	0,008595	1
5...1275	Strebel Favo (2) 2055	4	98,39	0,200	0,955	0,060	394	370	**-6**	%	18000	0,52060	0,011460	1
5...1275	Strebel Favo (2) 2055	5	98,39	0,250	0,955	0,060	492	453	**-8**	%	18000	0,62210	0,014325	1
5...1275	Strebel Favo (2) 2055	6	98,39	0,300	0,955	0,060	590	537	**-9**	%	18000	0,72360	0,017190	1
5...1275	Strebel Favo (2) 2055	7	98,39	0,350	0,955	0,060	689	620	**-10**	%	18000	0,82510	0,020055	1
5...1275	Strebel Favo (2) 2055	8	98,39	0,400	0,955	0,060	787	704	**-11**	%	18000	0,92660	0,022920	1
5...1275	Strebel Favo (2) 2055	9	98,39	0,450	0,955	0,060	886	787	**-11**	%	18000	1,02810	0,025785	1
5...1275	Strebel Favo (2) 2055	10	98,39	0,500	0,955	0,060	984	870	**-12**	%	18000	1,12960	0,028650	1
5...1275	Strebel Favo (2) 2055	11	98,39	0,550	0,955	0,060	1082	954	**-12**	%	18000	1,23110	0,031515	1
5...1275	Strebel Favo (2) 2055	12	98,39	0,600	0,955	0,060	1181	1037	**-12**	%	18000	1,33260	0,034380	1
5...1275	Strebel Favo (2) 2055	13	98,39	0,650	0,955	0,060	1279	1121	**-12**	%	18000	1,43410	0,037245	1
5...1275	Strebel Favo (2) 2055	14	98,39	0,700	0,955	0,060	1377	1204	**-13**	%	18000	1,53560	0,040110	1
5...1275	Strebel Favo (2) 2055	15	98,39	0,750	0,955	0,060	1476	1288	**-13**	%	18000	1,63710	0,042975	1
5...1275	Strebel Favo (2) 2055	16	98,39	0,800	0,955	0,060	1574	1371	**-13**	%	18000	1,73860	0,045840	1
5...1275	Strebel Favo (2) 2055	17	98,39	0,850	0,955	0,060	1673	1454	**-13**	%	18000	1,84010	0,048705	1
5...1275	Strebel Favo (2) 2055	18	98,39	0,900	0,955	0,060	1771	1538	**-13**	%	18000	1,94160	0,051570	1
5...1275	Strebel Favo (2) 2055	19	98,39	0,950	0,955	0,060	1869	1621	**-13**	%	18000	2,04310	0,054435	1
5...1275	Strebel Favo (2) 2055	20	98,39	1,000	0,955	0,060	1968	1705	**-13**	%	18000	2,14460	0,057300	1
5...1275	Strebel Favo (2) 2055	21	98,39	1,050	0,955	0,060	2066	1788	**-13**	%	18000	2,24610	0,060165	1
5...1275	Strebel Favo (2) 2055	22	98,39	1,100	0,955	0,060	2165	1872	**-14**	%	18000	2,34760	0,063030	1
5...1275	Strebel Favo (2) 2055	23	98,39	1,150	0,955	0,060	2263	1955	**-14**	%	18000	2,44910	0,065895	1
5...1275	Strebel Favo (2) 2055	24	98,39	1,200	0,955	0,060	2361	2039	**-14**	%	18000	2,55060	0,068760	1
5...1275	Strebel Favo (2) 2055	25	98,39	1,250	0,955	0,060	2460	2122	**-14**	%	18000	2,65210	0,071625	1
5...1275	Strebel Favo (2) 2055	26	98,39	1,300	0,955	0,060	2558	2205	**-14**	%	18000	2,75360	0,074490	1
5...1275	Strebel Favo (2) 2055	27	98,39	1,350	0,955	0,060	2657	2289	**-14**	%	18000	2,85510	0,077355	1
5...1275	Strebel Favo (2) 2055	28	98,39	1,400	0,955	0,060	2755	2372	**-14**	%	18000	2,95660	0,080220	1
5...1275	Strebel Favo (2) 2055	29	98,39	1,450	0,955	0,060	2853	2456	**-14**	%	18000	3,05810	0,083085	1
5...1275	Strebel Favo (2) 2055	30	98,39	1,500	0,955	0,060	2952	2539	**-14**	%	18000	3,15960	0,085950	1
5...1275	Strebel Favo (2) 2055	31	98,39	1,550	0,955	0,060	3050	2623	**-14**	%	18000	3,26110	0,088815	1
5...1277	Strebel Favo (4) 2055	1	111,37	0,055	0,566	0,135	111	148	**33**	%	18000	0,22993	0,004203	1
5...1277	Strebel Favo (4) 2055	2	111,37	0,110	0,566	0,135	223	248	**11**	%	18000	0,30704	0,008405	1
5...1277	Strebel Favo (4) 2055	3	111,37	0,165	0,566	0,135	334	348	**4**	%	18000	0,38415	0,012608	1
5...1277	Strebel Favo (4) 2055	5	111,37	0,275	0,566	0,135	557	547	**-2**	%	18000	0,53837	0,021013	1
5...1277	Strebel Favo (4) 2055	6	111,37	0,330	0,566	0,135	668	647	**-3**	%	18000	0,61548	0,025215	1
5...1277	Strebel Favo (4) 2055	7	111,37	0,385	0,566	0,135	780	747	**-4**	%	18000	0,69259	0,029418	1
5...1277	Strebel Favo (4) 2055	8	111,37	0,440	0,566	0,135	891	847	**-5**	%	18000	0,76970	0,033620	1
5...1277	Strebel Favo (4) 2055	9	111,37	0,495	0,566	0,135	1002	947	**-6**	%	18000	0,84681	0,037823	1
5...1277	Strebel Favo (4) 2055	10	111,37	0,550	0,566	0,135	1114	1047	**-6**	%	18000	0,92392	0,042026	1
5...1277	Strebel Favo (4) 2055	11	111,37	0,605	0,566	0,135	1225	1146	**-6**	%	18000	1,00103	0,046228	1
5...1277	Strebel Favo (4) 2055	12	111,37	0,660	0,566	0,135	1336	1246	**-7**	%	18000	1,07814	0,050431	1
5...476	Ribe - Rio S	1	119	0,052	0,422	0,219	119	165	**39**	%	18000	0,25150	0,004806	1
5...476	Ribe - Rio S	2	119	0,104	0,422	0,219	237	273	**15**	%	18000	0,31816	0,009611	1
5...476	Ribe - Rio S	3	119	0,156	0,422	0,219	356	380	**7**	%	18000	0,38483	0,014417	1
5...479	src radior	1	137,9	0,050	0,430	0,210	138	158	**15**	%	18000	0,24460	0,004515	1
5...479	src radior	3	137,9	0,150	0,430	0,210	414	361	**-13**	%	18000	0,37260	0,013545	1
5...479	src radior	4	137,9	0,200	0,430	0,210	552	462	**-16**	%	18000	0,43660	0,018060	1
5...479	src radior	5	137,9	0,250	0,430	0,210	690	564	**-18**	%	18000	0,50060	0,022575	1

5...479	src radior	6	137,9	0,300	0,430	0,210	827	665	**-20**	**%**	18000	0,56460	0,027090	1
5...479	src radior	7	137,9	0,350	0,430	0,210	965	766	**-21**	**%**	18000	0,62860	0,031605	1
5...479	src radior	8	137,9	0,400	0,430	0,210	1103	868	**-21**	**%**	18000	0,69260	0,036120	1
5...479	src radior	9	137,9	0,450	0,430	0,210	1241	969	**-22**	**%**	18000	0,75660	0,040635	1
5...479	src radior	10	137,9	0,500	0,430	0,210	1379	1070	**-22**	**%**	18000	0,82060	0,045150	1
5...479	src radior	11	137,9	0,550	0,430	0,210	1517	1172	**-23**	**%**	18000	0,88460	0,049665	1
5...479	src radior	12	137,9	0,600	0,430	0,210	1655	1273	**-23**	**%**	18000	0,94860	0,054180	1
5...479	src radior	13	137,9	0,650	0,430	0,210	1793	1374	**-23**	**%**	18000	1,01260	0,058695	1
5...479	src radior	14	137,9	0,700	0,430	0,210	1931	1476	**-24**	**%**	18000	1,07660	0,063210	1
5...479	src radior	15	137,9	0,750	0,430	0,210	2069	1577	**-24**	**%**	18000	1,14060	0,067725	1
5...479	src radior	16	137,9	0,800	0,430	0,210	2206	1679	**-24**	**%**	18000	1,20460	0,072240	1
5...479	src radior	17	137,9	0,850	0,430	0,210	2344	1780	**-24**	**%**	18000	1,26860	0,076755	1
5...479	src radior	18	137,9	0,900	0,430	0,210	2482	1881	**-24**	**%**	18000	1,33260	0,081270	1
5...479	src radior	19	137,9	0,950	0,430	0,210	2620	1983	**-24**	**%**	18000	1,39660	0,085785	1
5...479	src radior	20	137,9	1,000	0,430	0,210	2758	2084	**-24**	**%**	18000	1,46060	0,090300	1
5...479	src radior	21	137,9	1,050	0,430	0,210	2896	2185	**-25**	**%**	18000	1,52460	0,094815	1
5...479	src radior	22	137,9	1,100	0,430	0,210	3034	2287	**-25**	**%**	18000	1,58860	0,099330	1
5...479	src radior	23	137,9	1,150	0,430	0,210	3172	2388	**-25**	**%**	18000	1,65260	0,103845	1
5...479	src radior	24	137,9	1,200	0,430	0,210	3310	2489	**-25**	**%**	18000	1,71660	0,108360	1
5...479	src radior	25	137,9	1,250	0,430	0,210	3448	2591	**-25**	**%**	18000	1,78060	0,112875	1
5...479	src radior	26	137,9	1,300	0,430	0,210	3585	2692	**-25**	**%**	18000	1,84460	0,117390	1
5...476	Ribe - Rio S	1	158	0,052	0,572	0,219	158	222	**40**	**%**	18000	0,33280	0,006514	1
5...476	Ribe - Rio S	2	158	0,104	0,572	0,219	316	365	**15**	**%**	18000	0,41506	0,013028	1
5...476	Ribe - Rio S	3	158	0,156	0,572	0,219	475	508	**7**	**%**	18000	0,49733	0,019542	1
5...476	Ribe - Rio S	4	158	0,208	0,572	0,219	633	651	**3**	**%**	18000	0,57959	0,026056	1
5...476	Ribe - Rio S	10	158	0,520	0,572	0,219	1582	1509	**-5**	**%**	18000	1,07318	0,065139	1
5...476	Ribe - Rio S	11	158	0,572	0,572	0,219	1740	1653	**-5**	**%**	18000	1,15544	0,071653	1
5...476	Ribe - Rio S	1	235	0,052	0,870	0,219	235	334	**42**	**%**	18000	0,49432	0,009908	1
5...476	Ribe - Rio S	2	235	0,104	0,870	0,219	470	547	**17**	**%**	18000	0,60757	0,019815	1
5...476	Ribe - Rio S	3	235	0,156	0,870	0,219	705	761	**8**	**%**	18000	0,72083	0,029723	1
5...476	Ribe - Rio S	11	235	0,572	0,870	0,219	2584	2473	**-4**	**%**	18000	1,62688	0,108983	1
5...476	Ribe - Rio S	12	235	0,624	0,870	0,219	2819	2686	**-5**	**%**	18000	1,74013	0,118891	1
5...476	Ribe - Rio S	13	235	0,676	0,870	0,219	3054	2900	**-5**	**%**	18000	1,85339	0,128798	1
5...476	Ribe - Rio S	14	235	0,728	0,870	0,219	3289	3114	**-5**	**%**	18000	1,96664	0,138706	1

3.2 Comparative values for radiators of type 2 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elet	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
5...937	Union / Hilden - RI	1	65	0,055	0,380	0,150	65	107	65	%	16900	0,17230	0,003135	2
5...937	Union / Hilden - RI	2	65	0,110	0,380	0,150	130	178	37	%	16900	0,23060	0,006270	2
5...937	Union / Hilden - RI	3	65	0,165	0,380	0,150	195	250	28	%	16900	0,28890	0,009405	2
5...937	Union / Hilden - RI	4	65	0,220	0,380	0,150	260	321	23	%	16900	0,34720	0,012540	2
5...937	Union / Hilden - RI	5	65	0,275	0,380	0,150	325	392	21	%	16900	0,40550	0,015675	2
5...937	Union / Hilden - RI	6	65	0,330	0,380	0,150	390	464	19	%	16900	0,46380	0,018810	2
5...937	Union / Hilden - RI	7	65	0,385	0,380	0,150	455	535	18	%	16900	0,52210	0,021945	2
5...937	Union / Hilden - RI	8	65	0,440	0,380	0,150	520	606	17	%	16900	0,58040	0,025080	2
5...937	Union / Hilden - RI	9	65	0,495	0,380	0,150	585	677	16	%	16900	0,63870	0,028215	2
5...937	Union / Hilden - RI	10	65	0,550	0,380	0,150	650	749	15	%	16900	0,69700	0,031350	2
5...937	Union / Hilden - RI	11	65	0,605	0,380	0,150	715	820	15	%	16900	0,75530	0,034485	2
5...937	Union / Hilden - RI	12	65	0,660	0,380	0,150	780	891	14	%	16900	0,81360	0,037620	2
5...937	Union / Hilden - RI	13	65	0,715	0,380	0,150	845	963	14	%	16900	0,87190	0,040755	2
5...937	Union / Hilden - RI	14	65	0,770	0,380	0,150	910	1034	14	%	16900	0,93020	0,043890	2
5...937	Union / Hilden - RI	15	65	0,825	0,380	0,150	975	1105	13	%	16900	0,98850	0,047025	2
5...937	Union / Hilden - RI	16	65	0,880	0,380	0,150	1040	1176	13	%	16900	1,04680	0,050160	2
5...937	Union / Hilden - RI	17	65	0,935	0,380	0,150	1105	1248	13	%	16900	1,10510	0,053295	2
5...937	Union / Hilden - RI	18	65	0,990	0,380	0,150	1170	1319	13	%	16900	1,16340	0,056430	2
5...937	Union / Hilden - RI	19	65	1,045	0,380	0,150	1235	1390	13	%	16900	1,22170	0,059565	2
5...937	Union / Hilden - RI	20	65	1,100	0,380	0,150	1300	1462	12	%	16900	1,28000	0,062700	2
5...937	Union / Hilden - RI	21	65	1,155	0,380	0,150	1365	1533	12	%	16900	1,33830	0,065835	2
5...937	Union / Hilden - RI	22	65	1,210	0,380	0,150	1430	1604	12	%	16900	1,39660	0,068970	2
5...937	Union / Hilden - RI	1	110	0,055	0,635	0,150	110	175	60	%	16900	0,27685	0,005239	2
5...937	Union / Hilden - RI	2	110	0,110	0,635	0,150	220	291	32	%	16900	0,36320	0,010478	2
5...937	Union / Hilden - RI	3	110	0,165	0,635	0,150	330	407	23	%	16900	0,44955	0,015716	2
5...937	Union / Hilden - RI	4	110	0,220	0,635	0,150	440	522	19	%	16900	0,53590	0,020955	2
5...937	Union / Hilden - RI	5	110	0,275	0,635	0,150	550	638	16	%	16900	0,62225	0,026194	2
5...937	Union / Hilden - RI	6	110	0,330	0,635	0,150	660	754	14	%	16900	0,70860	0,031433	2
5...937	Union / Hilden - RI	7	110	0,385	0,635	0,150	770	869	13	%	16900	0,79495	0,036671	2
5...937	Union / Hilden - RI	8	110	0,440	0,635	0,150	880	985	12	%	16900	0,88130	0,041910	2
5...937	Union / Hilden - RI	9	110	0,495	0,635	0,150	990	1101	11	%	16900	0,96765	0,047149	2
5...937	Union / Hilden - RI	10	110	0,550	0,635	0,150	1100	1216	11	%	16900	1,05400	0,052388	2
5...937	Union / Hilden - RI	11	110	0,605	0,635	0,150	1210	1332	10	%	16900	1,14035	0,057626	2
5...937	Union / Hilden - RI	12	110	0,660	0,635	0,150	1320	1448	10	%	16900	1,22670	0,062865	2
5...937	Union / Hilden - RI	13	110	0,715	0,635	0,150	1430	1563	9	%	16900	1,31305	0,068104	2
5...937	Union / Hilden - RI	14	110	0,770	0,635	0,150	1540	1679	9	%	16900	1,39940	0,073343	2
5...937	Union / Hilden - RI	15	110	0,825	0,635	0,150	1650	1795	9	%	16900	1,48575	0,078581	2
5...937	Union / Hilden - RI	16	110	0,880	0,635	0,150	1760	1910	9	%	16900	1,57210	0,083820	2
5...937	Union / Hilden - RI	17	110	0,935	0,635	0,150	1870	2026	8	%	16900	1,65845	0,089059	2
5...937	Union / Hilden - RI	18	110	0,990	0,635	0,150	1980	2141	8	%	16900	1,74480	0,094298	2
5...937	Union / Hilden - RI	19	110	1,045	0,635	0,150	2090	2257	8	%	16900	1,83115	0,099536	2
5...937	Union / Hilden - RI	20	110	1,100	0,635	0,150	2200	2373	8	%	16900	1,91750	0,104775	2
5...937	Union / Hilden - RI	21	110	1,155	0,635	0,150	2310	2488	8	%	16900	2,00385	0,110014	2
5...937	Union / Hilden - RI	22	110	1,210	0,635	0,150	2420	2604	8	%	16900	2,09020	0,115253	2
5...937	Union / Hilden - RI	23	110	1,265	0,635	0,150	2530	2720	7	%	16900	2,17655	0,120491	2
5...937	Union / Hilden - RI	1	115	0,055	0,680	0,150	115	188	63	%	16900	0,29530	0,005610	2
5...937	Union / Hilden - RI	2	115	0,110	0,680	0,150	230	311	35	%	16900	0,38660	0,011220	2
5...937	Union / Hilden - RI	3	115	0,165	0,680	0,150	345	434	26	%	16900	0,47790	0,016830	2
5...937	Union / Hilden - RI	4	115	0,220	0,680	0,150	460	558	21	%	16900	0,56920	0,022440	2
5...937	Union / Hilden - RI	5	115	0,275	0,680	0,150	575	681	19	%	16900	0,66050	0,028050	2
5...937	Union / Hilden - RI	6	115	0,330	0,680	0,150	690	805	17	%	16900	0,75180	0,033660	2
5...937	Union / Hilden - RI	7	115	0,385	0,680	0,150	805	928	15	%	16900	0,84310	0,039270	2
5...937	Union / Hilden - RI	8	115	0,440	0,680	0,150	920	1052	14	%	16900	0,93440	0,044880	2
5...937	Union / Hilden - RI	9	115	0,495	0,680	0,150	1035	1175	14	%	16900	1,02570	0,050490	2
5...937	Union / Hilden - RI	10	115	0,550	0,680	0,150	1150	1299	13	%	16900	1,11700	0,056100	2
5...937	Union / Hilden - RI	11	115	0,605	0,680	0,150	1265	1422	12	%	16900	1,20830	0,061710	2
5...937	Union / Hilden - RI	12	115	0,660	0,680	0,150	1380	1546	12	%	16900	1,29960	0,067320	2
5...937	Union / Hilden - RI	13	115	0,715	0,680	0,150	1495	1669	12	%	16900	1,39090	0,072930	2
5...937	Union / Hilden - RI	14	115	0,770	0,680	0,150	1610	1793	11	%	16900	1,48220	0,078540	2
5...937	Union / Hilden - RI	15	115	0,825	0,680	0,150	1725	1916	11	%	16900	1,57350	0,084150	2
5...937	Union / Hilden - RI	16	115	0,880	0,680	0,150	1840	2040	11	%	16900	1,66480	0,089760	2
5...937	Union / Hilden - RI	17	115	0,935	0,680	0,150	1955	2163	11	%	16900	1,75610	0,095370	2
5...937	Union / Hilden - RI	18	115	0,990	0,680	0,150	2070	2287	10	%	16900	1,84740	0,100980	2
5...937	Union / Hilden - RI	19	115	1,045	0,680	0,150	2185	2410	10	%	16900	1,93870	0,106590	2
5...937	Union / Hilden - RI	20	115	1,100	0,680	0,150	2300	2534	10	%	16900	2,03000	0,112200	2
5...937	Union / Hilden - RI	21	115	1,155	0,680	0,150	2415	2657	10	%	16900	2,12130	0,117810	2
5...937	Union / Hilden - RI	22	115	1,210	0,680	0,150	2530	2781	10	%	16900	2,21260	0,123420	2
5...937	Union / Hilden - RI	23	115	1,265	0,680	0,150	2645	2904	10	%	16900	2,30390	0,129030	2
5...937	Union / Hilden - RI	1	190	0,055	1,180	0,150	190	322	69	%	16900	0,50030	0,009735	2
5...937	Union / Hilden - RI	1	190	0,055	1,180	0,150	190	322	69	%	16900	0,50030	0,009735	2
5...937	Union / Hilden - RI	2	190	0,110	1,180	0,150	380	532	40	%	16900	0,64660	0,019470	2
5...937	Union / Hilden - RI	2	190	0,110	1,180	0,150	380	532	40	%	16900	0,64660	0,019470	2
5...937	Union / Hilden - RI	3	190	0,165	1,180	0,150	570	743	30	%	16900	0,79290	0,029205	2
5...937	Union / Hilden - RI	3	190	0,165	1,180	0,150	570	743	30	%	16900	0,79290	0,029205	2
5...937	Union / Hilden - RI	4	190	0,220	1,180	0,150	760	953	25	%	16900	0,93920	0,038940	2
5...937	Union / Hilden - RI	4	190	0,220	1,180	0,150	760	953	25	%	16900	0,93920	0,038940	2
5...937	Union / Hilden - RI	5	190	0,275	1,180	0,150	950	1163	22	%	16900	1,08550	0,048675	2
5...937	Union / Hilden - RI	5	190	0,275	1,180	0,150	950	1163	22	%	16900	1,08550	0,048675	2
5...937	Union / Hilden - RI	6	190	0,330	1,180	0,150	1140	1374	21	%	16900	1,23180	0,058410	2
5...937	Union / Hilden - RI	6	190	0,330	1,180	0,150	1140	1374	21	%	16900	1,23180	0,058410	2
5...937	Union / Hilden - RI	7	190	0,385	1,180	0,150	1330	1584	19	%	16900	1,37810	0,068145	2
5...937	Union / Hilden - RI	7	190	0,385	1,180	0,150	1330	1584	19	%	16900	1,37810	0,068145	2
5...937	Union / Hilden - RI	8	190	0,440	1,180	0,150	1520	1795	18	%	16900	1,52440	0,077880	2
5...937	Union / Hilden - RI	8	190	0,440	1,180	0,150	1520	1795	18	%	16900	1,52440	0,077880	2
5...937	Union / Hilden - RI	9	190	0,495	1,180	0,150	1710	2005	17	%	16900	1,67070	0,087615	2
5...937	Union / Hilden - RI	9	190	0,495	1,180	0,150	1710	2005	17	%	16900	1,67070	0,087615	2
5...937	Union / Hilden - RI	10	190	0,550	1,180	0,150	1900	2216	17	%	16900	1,81700	0,097350	2
5...937	Union / Hilden - RI	10	190	0,550	1,180	0,150	1900	2216	17	%	16900	1,81700	0,097350	2
5...937	Union / Hilden - RI	11	190	0,605	1,180	0,150	2090	2426	16	%	16900	1,96330	0,107085	2
5...937	Union / Hilden - RI	11	190	0,605	1,180	0,150	2090	2426	16	%	16900	1,96330	0,107085	2
5...937	Union / Hilden - RI	12	190	0,660	1,180	0,150	2280	2637	16	%	16900	2,10960	0,116820	2
5...937	Union / Hilden - RI	12	190	0,660	1,180	0,150	2280	2637	16	%	16900	2,10960	0,116820	2
5...937	Union / Hilden - RI	13	190	0,715	1,180	0,150	2470	2847	15	%	16900	2,25590	0,126555	2
5...937	Union / Hilden - RI	13	190	0,715	1,180	0,150	2470	2847	15	%	16900	2,25590	0,126555	2
5...937	Union / Hilden - RI	14	190	0,770	1,180	0,150	2660	3058	15	%	16900	2,40220	0,136290	2
5...937	Union / Hilden - RI	14	190	0,770	1,180	0,150	2660	3058	15	%	16900	2,40220	0,136290	2
5...937	Union / Hilden - RI	15	190	0,825	1,180	0,150	2850	3268	15	%	16900	2,54850	0,146025	2
5...937	Union / Hilden - RI	15	190	0,825	1,180	0,150	2850	3268	15	%	16900	2,54850	0,146025	2
5...937	Union / Hilden - RI	16	190	0,880	1,180	0,150	3040	3479	14	%	16900	2,69480	0,155760	2
5...937	Union / Hilden - RI	16	190	0,880	1,180	0,150	3040	3479	14	%	16900	2,69480	0,155760	2

5...937	Union / Hilden - RI	17	190	0,935	1,180	0,150	3230	3689	**14**	**%**	16900	2,84110	0,165495	2
5...937	Union / Hilden - RI	17	190	0,935	1,180	0,150	3230	3689	**14**	**%**	16900	2,84110	0,165495	2
5...937	Union / Hilden - RI	18	190	0,990	1,180	0,150	3420	3899	**14**	**%**	16900	2,98740	0,175230	2
5...937	Union / Hilden - RI	18	190	0,990	1,180	0,150	3420	3899	**14**	**%**	16900	2,98740	0,175230	2
5...937	Union / Hilden - RI	19	190	1,045	1,180	0,150	3610	4110	**14**	**%**	16900	3,13370	0,184965	2
5...937	Union / Hilden - RI	19	190	1,045	1,180	0,150	3610	4110	**14**	**%**	16900	3,13370	0,184965	2
5...937	Union / Hilden - RI	20	190	1,100	1,180	0,150	3800	4320	**14**	**%**	16900	3,28000	0,194700	2
5...937	Union / Hilden - RI	20	190	1,100	1,180	0,150	3800	4320	**14**	**%**	16900	3,28000	0,194700	2
5...937	Union / Hilden - RI	21	190	1,155	1,180	0,150	3990	4531	**14**	**%**	16900	3,42630	0,204435	2
5...937	Union / Hilden - RI	21	190	1,155	1,180	0,150	3990	4531	**14**	**%**	16900	3,42630	0,204435	2
5...937	Union / Hilden - RI	1	220	0,055	0,775	0,250	220	337	**53**	**%**	16900	0,50025	0,010656	2
5...937	Union / Hilden - RI	2	220	0,110	0,775	0,250	440	553	**26**	**%**	16900	0,61300	0,021313	2
5...937	Union / Hilden - RI	3	220	0,165	0,775	0,250	660	768	**16**	**%**	16900	0,72575	0,031969	2
5...937	Union / Hilden - RI	4	220	0,220	0,775	0,250	880	984	**12**	**%**	16900	0,83850	0,042625	2
5...937	Union / Hilden - RI	1	335	0,055	1,180	0,250	335	509	**52**	**%**	16900	0,74730	0,016225	2
5...937	Union / Hilden - RI	2	335	0,110	1,180	0,250	670	832	**24**	**%**	16900	0,90460	0,032450	2
5...937	Union / Hilden - RI	3	335	0,165	1,180	0,250	1005	1156	**15**	**%**	16900	1,06190	0,048675	2
5...937	Union / Hilden - RI	4	335	0,220	1,180	0,250	1340	1480	**10**	**%**	16900	1,21920	0,064900	2
5...937	Union / Hilden - RI	5	335	0,275	1,180	0,250	1675	1803	**8**	**%**	16900	1,37650	0,081125	2
5...937	Union / Hilden - RI	6	335	0,330	1,180	0,250	2010	2127	**6**	**%**	16900	1,53380	0,097350	2

3.3 Comparative values for radiators of type 3 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elen	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
5...975	Union / Hilden	1	130	0,076	0,500	0,233	130	245	89	%	15500	0,34442	0,008854	3
5...975	Union / Hilden	2	130	0,152	0,500	0,233	260	418	61	%	15500	0,45583	0,017708	3
5...975	Union / Hilden	3	130	0,228	0,500	0,233	390	590	51	%	15500	0,56725	0,026562	3
5...975	Union / Hilden	4	130	0,304	0,500	0,233	520	762	47	%	15500	0,67866	0,035416	3
5...975	Union / Hilden	5	130	0,380	0,500	0,233	650	934	44	%	15500	0,79008	0,044270	3
5...975	Union / Hilden	6	130	0,456	0,500	0,233	780	1106	42	%	15500	0,90150	0,053124	3
5...975	Union / Hilden	7	130	0,532	0,500	0,233	910	1279	41	%	15500	1,01291	0,061978	3
5...975	Union / Hilden	8	130	0,608	0,500	0,233	1040	1451	40	%	15500	1,12433	0,070832	3
5...975	Union / Hilden	9	130	0,684	0,500	0,233	1170	1623	39	%	15500	1,23574	0,079686	3
5...975	Union / Hilden	10	130	0,760	0,500	0,233	1300	1795	38	%	15500	1,34716	0,088540	3
5...975	Union / Hilden	11	130	0,836	0,500	0,233	1430	1968	38	%	15500	1,45858	0,097394	3
5...975	Union / Hilden	12	130	0,912	0,500	0,233	1560	2140	37	%	15500	1,56999	0,106248	3
5...975	Union / Hilden	13	130	0,988	0,500	0,233	1690	2312	37	%	15500	1,68141	0,115102	3
5...975	Union / Hilden	14	130	1,064	0,500	0,233	1820	2484	36	%	15500	1,79282	0,123956	3
5...975	Union / Hilden	15	130	1,140	0,500	0,233	1950	2656	36	%	15500	1,90424	0,132810	3
5...975	Union / Hilden	16	130	1,216	0,500	0,233	2080	2829	36	%	15500	2,01566	0,141664	3
5...975	Union / Hilden	17	130	1,292	0,500	0,233	2210	3001	36	%	15500	2,12707	0,150518	3
5...975	Union / Hilden	18	130	1,368	0,500	0,233	2340	3173	36	%	15500	2,23849	0,159372	3
5...975	Union / Hilden	19	130	1,444	0,500	0,233	2470	3345	35	%	15500	2,34990	0,168226	3
5...975	Union / Hilden	20	130	1,520	0,500	0,233	2600	3518	35	%	15500	2,46132	0,177080	3
5...975	Union / Hilden	21	130	1,596	0,500	0,233	2730	3690	35	%	15500	2,57274	0,185934	3
5...975	Union / Hilden	22	130	1,672	0,500	0,233	2860	3862	35	%	15500	2,68415	0,194788	3
5...975	Union / Hilden	23	130	1,748	0,500	0,233	2990	4034	35	%	15500	2,79557	0,203642	3
5...975	Union / Hilden	24	130	1,824	0,500	0,233	3120	4206	35	%	15500	2,90698	0,212496	3
5...975	Union / Hilden	25	130	1,900	0,500	0,233	3250	4379	35	%	15500	3,01840	0,221350	3
5...975	Union / Hilden	26	130	1,976	0,500	0,233	3380	4551	35	%	15500	3,12982	0,230204	3
5...975	Union / Hilden	27	130	2,052	0,500	0,233	3510	4723	35	%	15500	3,24123	0,239058	3
5...975	Union / Hilden	28	130	2,128	0,500	0,233	3640	4895	34	%	15500	3,35265	0,247912	3
5...975	Union / Hilden	29	130	2,204	0,500	0,233	3770	5068	34	%	15500	3,46406	0,256766	3
5...975	Union / Hilden	30	130	2,280	0,500	0,233	3900	5240	34	%	15500	3,57548	0,265620	3
5...975	Union / Hilden	1	180	0,076	0,690	0,233	180	334	86	%	15500	0,46184	0,012219	3
5...975	Union / Hilden	2	180	0,152	0,690	0,233	360	568	58	%	15500	0,60213	0,024437	3
5...975	Union / Hilden	3	180	0,228	0,690	0,233	540	801	48	%	15500	0,74243	0,036656	3
5...975	Union / Hilden	4	180	0,304	0,690	0,233	720	1035	44	%	15500	0,88272	0,048874	3
5...975	Union / Hilden	5	180	0,380	0,690	0,233	900	1268	41	%	15500	1,02302	0,061093	3
5...975	Union / Hilden	6	180	0,456	0,690	0,233	1080	1502	39	%	15500	1,16332	0,073311	3
5...975	Union / Hilden	7	180	0,532	0,690	0,233	1260	1735	38	%	15500	1,30361	0,085530	3
5...975	Union / Hilden	8	180	0,608	0,690	0,233	1440	1968	37	%	15500	1,44391	0,097748	3
5...975	Union / Hilden	9	180	0,684	0,690	0,233	1620	2202	36	%	15500	1,58420	0,109967	3
5...975	Union / Hilden	10	180	0,760	0,690	0,233	1800	2435	35	%	15500	1,72450	0,122185	3
5...975	Union / Hilden	11	180	0,836	0,690	0,233	1980	2669	35	%	15500	1,86480	0,134404	3
5...975	Union / Hilden	12	180	0,912	0,690	0,233	2160	2902	34	%	15500	2,00509	0,146622	3
5...975	Union / Hilden	13	180	0,988	0,690	0,233	2340	3136	34	%	15500	2,14539	0,158841	3
5...975	Union / Hilden	14	180	1,064	0,690	0,233	2520	3369	34	%	15500	2,28568	0,171059	3
5...975	Union / Hilden	15	180	1,140	0,690	0,233	2700	3603	33	%	15500	2,42598	0,183278	3
5...975	Union / Hilden	16	180	1,216	0,690	0,233	2880	3836	33	%	15500	2,56628	0,195496	3
5...975	Union / Hilden	17	180	1,292	0,690	0,233	3060	4069	33	%	15500	2,70657	0,207715	3
5...975	Union / Hilden	18	180	1,368	0,690	0,233	3240	4303	33	%	15500	2,84687	0,219933	3
5...975	Union / Hilden	19	180	1,444	0,690	0,233	3420	4536	33	%	15500	2,98716	0,232152	3
5...975	Union / Hilden	20	180	1,520	0,690	0,233	3600	4770	32	%	15500	3,12746	0,244370	3
5...975	Union / Hilden	21	180	1,596	0,690	0,233	3780	5003	32	%	15500	3,26776	0,256589	3
5...975	Union / Hilden	22	180	1,672	0,690	0,233	3960	5237	32	%	15500	3,40805	0,268807	3
5...975	Union / Hilden	23	180	1,748	0,690	0,233	4140	5470	32	%	15500	3,54835	0,281026	3
5...975	Union / Hilden	24	180	1,824	0,690	0,233	4320	5704	32	%	15500	3,68864	0,293244	3
5...975	Union / Hilden	25	180	1,900	0,690	0,233	4500	5937	32	%	15500	3,82894	0,305463	3
5...975	Union / Hilden	26	180	1,976	0,690	0,233	4680	6170	32	%	15500	3,96924	0,317682	3
5...975	Union / Hilden	27	180	2,052	0,690	0,233	4860	6404	32	%	15500	4,10953	0,329900	3
5...969	Union / Hilden	1	185	0,080	0,585	0,245	185	309	67	%	15500	0,41945	0,011466	3
5...969	Union / Hilden	2	185	0,160	0,585	0,245	370	529	43	%	15500	0,55225	0,022932	3
5...969	Union / Hilden	3	185	0,240	0,585	0,245	555	748	35	%	15500	0,68505	0,034398	3
5...969	Union / Hilden	4	185	0,320	0,585	0,245	740	968	31	%	15500	0,81785	0,045864	3
5...969	Union / Hilden	5	185	0,400	0,585	0,245	925	1187	28	%	15500	0,95065	0,057330	3
5...969	Union / Hilden	6	185	0,480	0,585	0,245	1110	1407	27	%	15500	1,08345	0,068796	3
5...969	Union / Hilden	7	185	0,560	0,585	0,245	1295	1626	26	%	15500	1,21625	0,080262	3
5...969	Union / Hilden	8	185	0,640	0,585	0,245	1480	1845	25	%	15500	1,34905	0,091728	3
5...969	Union / Hilden	9	185	0,720	0,585	0,245	1665	2065	24	%	15500	1,48185	0,103194	3
5...969	Union / Hilden	10	185	0,800	0,585	0,245	1850	2284	23	%	15500	1,61465	0,114660	3
5...969	Union / Hilden	11	185	0,880	0,585	0,245	2035	2504	23	%	15500	1,74745	0,126126	3
5...969	Union / Hilden	12	185	0,960	0,585	0,245	2220	2723	23	%	15500	1,88025	0,137592	3
5...969	Union / Hilden	13	185	1,040	0,585	0,245	2405	2942	22	%	15500	2,01305	0,149058	3
5...969	Union / Hilden	14	185	1,120	0,585	0,245	2590	3162	22	%	15500	2,14585	0,160524	3
5...969	Union / Hilden	15	185	1,200	0,585	0,245	2775	3381	22	%	15500	2,27865	0,171990	3
5...969	Union / Hilden	16	185	1,280	0,585	0,245	2960	3601	22	%	15500	2,41145	0,183456	3
5...969	Union / Hilden	17	185	1,360	0,585	0,245	3145	3820	21	%	15500	2,54425	0,194922	3
5...969	Union / Hilden	18	185	1,440	0,585	0,245	3330	4040	21	%	15500	2,67705	0,206388	3
5...969	Union / Hilden	19	185	1,520	0,585	0,245	3515	4259	21	%	15500	2,80985	0,217854	3
5...969	Union / Hilden	20	185	1,600	0,585	0,245	3700	4478	21	%	15500	2,94265	0,229320	3
5...969	Union / Hilden	21	185	1,680	0,585	0,245	3885	4698	21	%	15500	3,07545	0,240786	3
5...976	Union / Hilden	1	205	0,090	0,500	0,327	205	378	84	%	15500	0,47586	0,014715	3
5...976	Union / Hilden	2	205	0,180	0,500	0,327	410	652	59	%	15500	0,62472	0,029430	3
5...976	Union / Hilden	3	205	0,270	0,500	0,327	615	927	51	%	15500	0,77358	0,044145	3
5...976	Union / Hilden	4	205	0,360	0,500	0,327	820	1202	47	%	15500	0,92244	0,058860	3
5...976	Union / Hilden	5	205	0,450	0,500	0,327	1025	1477	44	%	15500	1,07130	0,073575	3
5...976	Union / Hilden	6	205	0,540	0,500	0,327	1230	1752	42	%	15500	1,22016	0,088290	3
5...976	Union / Hilden	7	205	0,630	0,500	0,327	1435	2026	41	%	15500	1,36902	0,103005	3
5...976	Union / Hilden	8	205	0,720	0,500	0,327	1640	2301	40	%	15500	1,51788	0,117720	3
5...976	Union / Hilden	9	205	0,810	0,500	0,327	1845	2576	40	%	15500	1,66674	0,132435	3
5...976	Union / Hilden	10	205	0,900	0,500	0,327	2050	2851	39	%	15500	1,81560	0,147150	3
5...976	Union / Hilden	11	205	0,990	0,500	0,327	2255	3126	39	%	15500	1,96446	0,161865	3
5...976	Union / Hilden	12	205	1,080	0,500	0,327	2460	3401	38	%	15500	2,11332	0,176580	3
5...976	Union / Hilden	13	205	1,170	0,500	0,327	2665	3675	38	%	15500	2,26218	0,191295	3
5...976	Union / Hilden	14	205	1,260	0,500	0,327	2870	3950	38	%	15500	2,41104	0,206010	3
5...976	Union / Hilden	15	205	1,350	0,500	0,327	3075	4225	37	%	15500	2,55990	0,220725	3
5...976	Union / Hilden	16	205	1,440	0,500	0,327	3280	4500	37	%	15500	2,70876	0,235440	3
5...976	Union / Hilden	17	205	1,530	0,500	0,327	3485	4775	37	%	15500	2,85762	0,250155	3
5...976	Union / Hilden	18	205	1,620	0,500	0,327	3690	5050	37	%	15500	3,00648	0,264870	3
5...976	Union / Hilden	19	205	1,710	0,500	0,327	3895	5324	37	%	15500	3,15534	0,279585	3
5...976	Union / Hilden	20	205	1,800	0,500	0,327	4100	5599	37	%	15500	3,30420	0,294300	3
5...976	Union / Hilden	21	205	1,890	0,500	0,327	4305	5874	36	%	15500	3,45306	0,309015	3
5...976	Union / Hilden	22	205	1,980	0,500	0,327	4510	6149	36	%	15500	3,60192	0,323730	3
5...976	Union / Hilden	23	205	2,070	0,500	0,327	4715	6424	36	%	15500	3,75078	0,338445	3
5...976	Union / Hilden	24	205	2,160	0,500	0,327	4920	6698	36	%	15500	3,89964	0,353160	3
5...976	Union / Hilden	25	205	2,250	0,500	0,327	5125	6973	36	%	15500	4,04850	0,367875	3
5...976	Union / Hilden	26	205	2,340	0,500	0,327	5330	7248	36	%	15500	4,19736	0,382590	3

5...976	Union / Hilden	27	205	2,430	0,500	0,327	5535	7523	**36**	**%**	15500	4,34622	0,397305	3
5...976	Union / Hilden	28	205	2,520	0,500	0,327	5740	7798	**36**	**%**	15500	4,49508	0,412020	3
5...976	Union / Hilden	29	205	2,610	0,500	0,327	5945	8073	**36**	**%**	15500	4,64394	0,426735	3
5...644	Union / Hilden -America	1	235	0,080	1,130	0,180	235	446	**90**	**%**	15500	0,61640	0,016272	3
5...644	Union / Hilden -America	2	235	0,160	1,130	0,180	470	764	**63**	**%**	15500	0,82600	0,032544	3
5...644	Union / Hilden -America	3	235	0,240	1,130	0,180	705	1082	**53**	**%**	15500	1,03560	0,048816	3
5...644	Union / Hilden -America	4	235	0,320	1,130	0,180	940	1400	**49**	**%**	15500	1,24520	0,065088	3
5...644	Union / Hilden -America	5	235	0,400	1,130	0,180	1175	1718	**46**	**%**	15500	1,45480	0,081360	3
5...644	Union / Hilden -America	6	235	0,480	1,130	0,180	1410	2036	**44**	**%**	15500	1,66440	0,097632	3
5...644	Union / Hilden -America	7	235	0,560	1,130	0,180	1645	2354	**43**	**%**	15500	1,87400	0,113904	3
5...644	Union / Hilden -America	8	235	0,640	1,130	0,180	1880	2672	**42**	**%**	15500	2,08360	0,130176	3
5...644	Union / Hilden -America	9	235	0,720	1,130	0,180	2115	2990	**41**	**%**	15500	2,29320	0,146448	3
5...644	Union / Hilden -America	10	235	0,800	1,130	0,180	2350	3308	**41**	**%**	15500	2,50280	0,162720	3
5...644	Union / Hilden -America	11	235	0,880	1,130	0,180	2585	3626	**40**	**%**	15500	2,71240	0,178992	3
5...644	Union / Hilden -America	12	235	0,960	1,130	0,180	2820	3944	**40**	**%**	15500	2,92200	0,195264	3
5...975	Union / Hilden	1	240	0,076	0,900	0,233	240	433	**80**	**%**	15500	0,59162	0,015937	3
5...975	Union / Hilden	2	240	0,152	0,900	0,233	480	734	**53**	**%**	15500	0,76383	0,031874	3
5...975	Union / Hilden	3	240	0,228	0,900	0,233	720	1035	**44**	**%**	15500	0,93605	0,047812	3
5...975	Union / Hilden	4	240	0,304	0,900	0,233	960	1336	**39**	**%**	15500	1,10826	0,063749	3
5...975	Union / Hilden	5	240	0,380	0,900	0,233	1200	1637	**36**	**%**	15500	1,28048	0,079686	3
5...975	Union / Hilden	6	240	0,456	0,900	0,233	1440	1938	**35**	**%**	15500	1,45270	0,095623	3
5...975	Union / Hilden	7	240	0,532	0,900	0,233	1680	2239	**33**	**%**	15500	1,62491	0,111560	3
5...975	Union / Hilden	8	240	0,608	0,900	0,233	1920	2541	**32**	**%**	15500	1,79713	0,127498	3
5...975	Union / Hilden	9	240	0,684	0,900	0,233	2160	2842	**32**	**%**	15500	1,96934	0,143435	3
5...975	Union / Hilden	10	240	0,760	0,900	0,233	2400	3143	**31**	**%**	15500	2,14156	0,159372	3
5...975	Union / Hilden	11	240	0,836	0,900	0,233	2640	3444	**30**	**%**	15500	2,31378	0,175309	3
5...975	Union / Hilden	12	240	0,912	0,900	0,233	2880	3745	**30**	**%**	15500	2,48599	0,191246	3
5...975	Union / Hilden	13	240	0,988	0,900	0,233	3120	4046	**30**	**%**	15500	2,65821	0,207184	3
5...975	Union / Hilden	14	240	1,064	0,900	0,233	3360	4347	**29**	**%**	15500	2,83042	0,223121	3
5...975	Union / Hilden	15	240	1,140	0,900	0,233	3600	4648	**29**	**%**	15500	3,00264	0,239058	3
5...975	Union / Hilden	16	240	1,216	0,900	0,233	3840	4949	**29**	**%**	15500	3,17486	0,254995	3
5...975	Union / Hilden	17	240	1,292	0,900	0,233	4080	5250	**29**	**%**	15500	3,34707	0,270932	3
5...975	Union / Hilden	18	240	1,368	0,900	0,233	4320	5552	**29**	**%**	15500	3,51929	0,286870	3
5...975	Union / Hilden	19	240	1,444	0,900	0,233	4560	5853	**28**	**%**	15500	3,69150	0,302807	3
5...975	Union / Hilden	20	240	1,520	0,900	0,233	4800	6154	**28**	**%**	15500	3,86372	0,318744	3
5...975	Union / Hilden	21	240	1,596	0,900	0,233	5040	6455	**28**	**%**	15500	4,03594	0,334681	3
5...975	Union / Hilden	22	240	1,672	0,900	0,233	5280	6756	**28**	**%**	15500	4,20815	0,350618	3
5...975	Union / Hilden	23	240	1,748	0,900	0,233	5520	7057	**28**	**%**	15500	4,38037	0,366556	3
5...976	Union / Hilden	1	325	0,090	0,750	0,327	325	557	**71**	**%**	15500	0,68436	0,022073	3
5...976	Union / Hilden	2	325	0,180	0,750	0,327	650	960	**48**	**%**	15500	0,87822	0,044145	3
5...976	Union / Hilden	3	325	0,270	0,750	0,327	975	1363	**40**	**%**	15500	1,07208	0,066218	3
5...976	Union / Hilden	4	325	0,360	0,750	0,327	1300	1766	**36**	**%**	15500	1,26594	0,088290	3
5...976	Union / Hilden	5	325	0,450	0,750	0,327	1625	2169	**33**	**%**	15500	1,45980	0,110363	3
5...976	Union / Hilden	6	325	0,540	0,750	0,327	1950	2572	**32**	**%**	15500	1,65366	0,132435	3
5...976	Union / Hilden	7	325	0,630	0,750	0,327	2275	2975	**31**	**%**	15500	1,84752	0,154508	3
5...976	Union / Hilden	8	325	0,720	0,750	0,327	2600	3378	**30**	**%**	15500	2,04138	0,176580	3
5...976	Union / Hilden	9	325	0,810	0,750	0,327	2925	3781	**29**	**%**	15500	2,23524	0,198653	3
5...976	Union / Hilden	10	325	0,900	0,750	0,327	3250	4184	**29**	**%**	15500	2,42910	0,220725	3
5...976	Union / Hilden	11	325	0,990	0,750	0,327	3575	4587	**28**	**%**	15500	2,62296	0,242798	3
5...976	Union / Hilden	12	325	1,080	0,750	0,327	3900	4990	**28**	**%**	15500	2,81682	0,264870	3
5...976	Union / Hilden	13	325	1,170	0,750	0,327	4225	5393	**28**	**%**	15500	3,01068	0,286943	3
5...976	Union / Hilden	14	325	1,260	0,750	0,327	4550	5796	**27**	**%**	15500	3,20454	0,309015	3
5...976	Union / Hilden	15	325	1,350	0,750	0,327	4875	6199	**27**	**%**	15500	3,39840	0,331088	3
5...976	Union / Hilden	16	325	1,440	0,750	0,327	5200	6602	**27**	**%**	15500	3,59226	0,353160	3
5...976	Union / Hilden	17	325	1,530	0,750	0,327	5525	7005	**27**	**%**	15500	3,78612	0,375233	3
5...976	Union / Hilden	18	325	1,620	0,750	0,327	5850	7408	**27**	**%**	15500	3,97998	0,397305	3
5...976	Union / Hilden	19	325	1,710	0,750	0,327	6175	7811	**26**	**%**	15500	4,17384	0,419378	3
5...976	Union / Hilden	20	325	1,800	0,750	0,327	6500	8214	**26**	**%**	15500	4,36770	0,441450	3
5...976	Union / Hilden	21	325	1,890	0,750	0,327	6825	8617	**26**	**%**	15500	4,56156	0,463523	3
5...976	Union / Hilden	22	325	1,980	0,750	0,327	7150	9020	**26**	**%**	15500	4,75542	0,485595	3
5...976	Union / Hilden	23	325	2,070	0,750	0,327	7475	9423	**26**	**%**	15500	4,94928	0,507668	3
5...976	Union / Hilden	24	325	2,160	0,750	0,327	7800	9826	**26**	**%**	15500	5,14314	0,529740	3
5...976	Union / Hilden	25	325	2,250	0,750	0,327	8125	10229	**26**	**%**	15500	5,33700	0,551813	3
5...976	Union / Hilden	26	325	2,340	0,750	0,327	8450	10632	**26**	**%**	15500	5,53086	0,573885	3
5...976	Union / Hilden	27	325	2,430	0,750	0,327	8775	11035	**26**	**%**	15500	5,72472	0,595958	3
5...976	Union / Hilden	1	395	0,090	0,900	0,327	395	665	**68**	**%**	15500	0,80946	0,026487	3
5...976	Union / Hilden	2	395	0,180	0,900	0,327	790	1145	**45**	**%**	15500	1,03032	0,052974	3
5...976	Union / Hilden	3	395	0,270	0,900	0,327	1185	1625	**37**	**%**	15500	1,25118	0,079461	3
5...976	Union / Hilden	4	395	0,360	0,900	0,327	1580	2104	**33**	**%**	15500	1,47204	0,105948	3
5...976	Union / Hilden	5	395	0,450	0,900	0,327	1975	2584	**31**	**%**	15500	1,69290	0,132435	3
5...976	Union / Hilden	6	395	0,540	0,900	0,327	2370	3064	**29**	**%**	15500	1,91376	0,158922	3
5...976	Union / Hilden	7	395	0,630	0,900	0,327	2765	3544	**28**	**%**	15500	2,13462	0,185409	3
5...976	Union / Hilden	8	395	0,720	0,900	0,327	3160	4024	**27**	**%**	15500	2,35548	0,211896	3
5...976	Union / Hilden	9	395	0,810	0,900	0,327	3555	4504	**27**	**%**	15500	2,57634	0,238383	3
5...976	Union / Hilden	10	395	0,900	0,900	0,327	3950	4984	**26**	**%**	15500	2,79720	0,264870	3
5...976	Union / Hilden	11	395	0,990	0,900	0,327	4345	5464	**26**	**%**	15500	3,01806	0,291357	3
5...976	Union / Hilden	12	395	1,080	0,900	0,327	4740	5944	**25**	**%**	15500	3,23892	0,317844	3
5...976	Union / Hilden	13	395	1,170	0,900	0,327	5135	6424	**25**	**%**	15500	3,45978	0,344331	3
5...976	Union / Hilden	14	395	1,260	0,900	0,327	5530	6903	**25**	**%**	15500	3,68064	0,370818	3
5...976	Union / Hilden	15	395	1,350	0,900	0,327	5925	7383	**25**	**%**	15500	3,90150	0,397305	3
5...976	Union / Hilden	16	395	1,440	0,900	0,327	6320	7863	**24**	**%**	15500	4,12236	0,423792	3
5...976	Union / Hilden	17	395	1,530	0,900	0,327	6715	8343	**24**	**%**	15500	4,34322	0,450279	3
5...976	Union / Hilden	18	395	1,620	0,900	0,327	7110	8823	**24**	**%**	15500	4,56408	0,476766	3
5...976	Union / Hilden	19	395	1,710	0,900	0,327	7505	9303	**24**	**%**	15500	4,78494	0,503253	3
5...976	Union / Hilden	20	395	1,800	0,900	0,327	7900	9783	**24**	**%**	15500	5,00580	0,529740	3
5...976	Union / Hilden	21	395	1,890	0,900	0,327	8295	10263	**24**	**%**	15500	5,22666	0,556227	3
5...976	Union / Hilden	22	395	1,980	0,900	0,327	8690	10743	**24**	**%**	15500	5,44752	0,582714	3
5...976	Union / Hilden	23	395	2,070	0,900	0,327	9085	11222	**24**	**%**	15500	5,66838	0,609201	3

3.4 Comparative values for radiators of type 4 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elet	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
5...1253	Classic Gussradiator	1	125	0,055	0,592	0,198	125	221	**77**	%	18600	0,32133	0,006447	4
5...1442	Strebel	1	125	0,055	0,690	0,150	125	200	**60**	%	18600	0,29940	0,005693	4
5...1253	Classic Gussradiator	2	125	0,110	0,592	0,198	250	368	**47**	%	18600	0,40823	0,012894	4
5...1442	Strebel	2	125	0,110	0,690	0,150	250	335	**34**	%	18600	0,39180	0,011385	4
5...1253	Classic Gussradiator	3	125	0,165	0,592	0,198	375	515	**37**	%	18600	0,49513	0,019341	4
5...1442	Strebel	3	125	0,165	0,690	0,150	375	470	**25**	%	18600	0,48420	0,017078	4
5...1253	Classic Gussradiator	4	125	0,220	0,592	0,198	500	662	**32**	%	18600	0,58203	0,025788	4
5...1442	Strebel	4	125	0,220	0,690	0,150	500	605	**21**	%	18600	0,57660	0,022770	4
5...1253	Classic Gussradiator	5	125	0,275	0,592	0,198	625	810	**30**	%	18600	0,66893	0,032234	4
5...1442	Strebel	5	125	0,275	0,690	0,150	625	739	**18**	%	18600	0,66900	0,028463	4
5...1253	Classic Gussradiator	6	125	0,330	0,592	0,198	750	957	**28**	%	18600	0,75583	0,038681	4
5...1442	Strebel	6	125	0,330	0,690	0,150	750	874	**17**	%	18600	0,76140	0,034155	4
5...1253	Classic Gussradiator	7	125	0,385	0,592	0,198	875	1104	**26**	%	18600	0,84273	0,045128	4
5...1442	Strebel	7	125	0,385	0,690	0,150	875	1009	**15**	%	18600	0,85380	0,039848	4
5...1253	Classic Gussradiator	8	125	0,440	0,592	0,198	1000	1251	**25**	%	18600	0,92963	0,051575	4
5...1442	Strebel	8	125	0,440	0,690	0,150	1000	1144	**14**	%	18600	0,94620	0,045540	4
5...1253	Classic Gussradiator	9	125	0,495	0,592	0,198	1125	1398	**24**	%	18600	1,01653	0,058022	4
5...1442	Strebel	9	125	0,495	0,690	0,150	1125	1279	**14**	%	18600	1,03860	0,051233	4
5...1253	Classic Gussradiator	10	125	0,550	0,592	0,198	1250	1546	**24**	%	18600	1,10343	0,064469	4
5...1442	Strebel	10	125	0,550	0,690	0,150	1250	1414	**13**	%	18600	1,13100	0,056925	4
5...1253	Classic Gussradiator	11	125	0,605	0,592	0,198	1375	1693	**23**	%	18600	1,19033	0,070916	4
5...1442	Strebel	11	125	0,605	0,690	0,150	1375	1549	**13**	%	18600	1,22340	0,062618	4
5...1253	Classic Gussradiator	12	125	0,660	0,592	0,198	1500	1840	**23**	%	18600	1,27723	0,077363	4
5...1442	Strebel	12	125	0,660	0,690	0,150	1500	1684	**12**	%	18600	1,31580	0,068310	4
5...1253	Classic Gussradiator	13	125	0,715	0,592	0,198	1625	1987	**22**	%	18600	1,36413	0,083809	4
5...1253	Classic Gussradiator	14	125	0,770	0,592	0,198	1750	2134	**22**	%	18600	1,45103	0,090256	4
5...1253	Classic Gussradiator	15	125	0,825	0,592	0,198	1875	2282	**22**	%	18600	1,53793	0,096703	4
5...1253	Classic Gussradiator	16	125	0,880	0,592	0,198	2000	2429	**21**	%	18600	1,62483	0,103150	4
5...1253	Classic Gussradiator	17	125	0,935	0,592	0,198	2125	2576	**21**	%	18600	1,71173	0,109597	4
5...1253	Classic Gussradiator	18	125	0,990	0,592	0,198	2250	2723	**21**	%	18600	1,79863	0,116044	4
5...1253	Classic Gussradiator	19	125	1,045	0,592	0,198	2375	2870	**21**	%	18600	1,88553	0,122491	4
5...1253	Classic Gussradiator	20	125	1,100	0,592	0,198	2500	3018	**21**	%	18600	1,97243	0,128938	4
5...1253	Classic Gussradiator	21	125	1,155	0,592	0,198	2625	3165	**21**	%	18600	2,05933	0,135384	4
5...1253	Classic Gussradiator	22	125	1,210	0,592	0,198	2750	3312	**20**	%	18600	2,14623	0,141831	4
5...1253	Classic Gussradiator	23	125	1,265	0,592	0,198	2875	3459	**20**	%	18600	2,23313	0,148278	4
5...1253	Classic Gussradiator	24	125	1,320	0,592	0,198	3000	3606	**20**	%	18600	2,32003	0,154725	4
5...1253	Classic Gussradiator	25	125	1,375	0,592	0,198	3125	3754	**20**	%	18600	2,40693	0,161172	4
5...1253	Classic Gussradiator	1	155	0,055	0,692	0,210	155	271	**75**	%	18600	0,38986	0,007993	4
5...1253	Classic Gussradiator	2	155	0,110	0,692	0,210	310	451	**45**	%	18600	0,48908	0,015985	4
5...1253	Classic Gussradiator	3	155	0,165	0,692	0,210	465	631	**36**	%	18600	0,58830	0,023978	4
5...1253	Classic Gussradiator	4	155	0,220	0,692	0,210	620	811	**31**	%	18600	0,68752	0,031970	4
5...1253	Classic Gussradiator	5	155	0,275	0,692	0,210	775	990	**28**	%	18600	0,78674	0,039963	4
5...1253	Classic Gussradiator	6	155	0,330	0,692	0,210	930	1170	**26**	%	18600	0,88596	0,047956	4
5...1253	Classic Gussradiator	7	155	0,385	0,692	0,210	1085	1350	**24**	%	18600	0,98518	0,055948	4
5...1253	Classic Gussradiator	8	155	0,440	0,692	0,210	1240	1530	**23**	%	18600	1,08440	0,063941	4
5...1253	Classic Gussradiator	9	155	0,495	0,692	0,210	1395	1710	**23**	%	18600	1,18362	0,071933	4
5...1253	Classic Gussradiator	10	155	0,550	0,692	0,210	1550	1889	**22**	%	18600	1,28284	0,079926	4
5...1253	Classic Gussradiator	11	155	0,605	0,692	0,210	1705	2069	**21**	%	18600	1,38206	0,087919	4
5...1253	Classic Gussradiator	12	155	0,660	0,692	0,210	1860	2249	**21**	%	18600	1,48128	0,095911	4
5...1253	Classic Gussradiator	13	155	0,715	0,692	0,210	2015	2429	**21**	%	18600	1,58050	0,103904	4
5...1253	Classic Gussradiator	14	155	0,770	0,692	0,210	2170	2609	**20**	%	18600	1,67972	0,111896	4
5...1253	Classic Gussradiator	15	155	0,825	0,692	0,210	2325	2789	**20**	%	18600	1,77894	0,119889	4
5...1253	Classic Gussradiator	16	155	0,880	0,692	0,210	2480	2968	**20**	%	18600	1,87816	0,127882	4
5...1253	Classic Gussradiator	17	155	0,935	0,692	0,210	2635	3148	**19**	%	18600	1,97738	0,135874	4
5...1253	Classic Gussradiator	18	155	0,990	0,692	0,210	2790	3328	**19**	%	18600	2,07660	0,143867	4
5...1253	Classic Gussradiator	19	155	1,045	0,692	0,210	2945	3508	**19**	%	18600	2,17582	0,151859	4
5...1253	Classic Gussradiator	20	155	1,100	0,692	0,210	3100	3688	**19**	%	18600	2,27504	0,159852	4
5...1253	Classic Gussradiator	21	155	1,155	0,692	0,210	3255	3867	**19**	%	18600	2,37426	0,167845	4
5...1253	Classic Gussradiator	22	155	1,210	0,692	0,210	3410	4047	**19**	%	18600	2,47348	0,175837	4
5...1253	Classic Gussradiator	23	155	1,265	0,692	0,210	3565	4227	**19**	%	18600	2,57270	0,183830	4
5...1253	Classic Gussradiator	24	155	1,320	0,692	0,210	3720	4407	**18**	%	18600	2,67192	0,191822	4
5...1253	Classic Gussradiator	25	155	1,375	0,692	0,210	3875	4587	**18**	%	18600	2,77114	0,199815	4
5...1253	Classic Gussradiator	26	155	1,430	0,692	0,210	4030	4767	**18**	%	18600	2,87036	0,207808	4
5...1253	Classic Gussradiator	27	155	1,485	0,692	0,210	4185	4946	**18**	%	18600	2,96958	0,215800	4
5...1253	Classic Gussradiator	28	155	1,540	0,692	0,210	4340	5126	**18**	%	18600	3,06880	0,223793	4
5...479	src radior	1	217	0,055	0,680	0,210	217	267	**23**	%	18600	0,38350	0,007854	4
5...479	src radior	6	217	0,330	0,680	0,210	1302	1151	**-12**	%	18600	0,87300	0,047124	4
5...479	src radior	7	217	0,385	0,680	0,210	1519	1327	**-13**	%	18600	0,97090	0,054978	4
5...479	src radior	8	217	0,440	0,680	0,210	1736	1504	**-13**	%	18600	1,06880	0,062832	4
5...479	src radior	9	217	0,495	0,680	0,210	1953	1681	**-14**	%	18600	1,16670	0,070686	4
5...479	src radior	10	217	0,550	0,680	0,210	2170	1858	**-14**	%	18600	1,26460	0,078540	4
5...479	src radior	11	217	0,605	0,680	0,210	2387	2035	**-15**	%	18600	1,36250	0,086394	4
5...479	src radior	12	217	0,660	0,680	0,210	2604	2212	**-15**	%	18600	1,46040	0,094248	4
5...479	src radior	13	217	0,715	0,680	0,210	2821	2388	**-15**	%	18600	1,55830	0,102102	4
5...479	src radior	14	217	0,770	0,680	0,210	3038	2565	**-16**	%	18600	1,65620	0,109956	4
5...479	src radior	15	217	0,825	0,680	0,210	3255	2742	**-16**	%	18600	1,75410	0,117810	4
5...479	src radior	16	217	0,880	0,680	0,210	3472	2919	**-16**	%	18600	1,85200	0,125664	4
5...479	src radior	17	217	0,935	0,680	0,210	3689	3096	**-16**	%	18600	1,94990	0,133518	4
5...479	src radior	18	217	0,990	0,680	0,210	3906	3273	**-16**	%	18600	2,04780	0,141372	4
5...479	src radior	19	217	1,045	0,680	0,210	4123	3449	**-16**	%	18600	2,14570	0,149226	4
5...479	src radior	20	217	1,100	0,680	0,210	4340	3626	**-16**	%	18600	2,24360	0,157080	4
5...479	src radior	21	217	1,155	0,680	0,210	4557	3803	**-17**	%	18600	2,34150	0,164934	4
5...479	src radior	22	217	1,210	0,680	0,210	4774	3980	**-17**	%	18600	2,43940	0,172788	4
5...479	src radior	23	217	1,265	0,680	0,210	4991	4157	**-17**	%	18600	2,53730	0,180642	4
5...479	src radior	24	217	1,320	0,680	0,210	5208	4333	**-17**	%	18600	2,63520	0,188496	4
5...479	src radior	25	217	1,375	0,680	0,210	5425	4510	**-17**	%	18600	2,73310	0,196350	4
5...479	src radior	26	217	1,430	0,680	0,210	5642	4687	**-17**	%	18600	2,83100	0,204204	4
5...479	src radior	27	217	1,485	0,680	0,210	5859	4864	**-17**	%	18600	2,92890	0,212058	4
5...479	src radior	28	217	1,540	0,680	0,210	6076	5041	**-17**	%	18600	3,02680	0,219912	4
5...479	src radior	29	217	1,595	0,680	0,210	6293	5218	**-17**	%	18600	3,12470	0,227766	4
5...479	src radior	30	217	1,650	0,680	0,210	6510	5394	**-17**	%	18600	3,22260	0,235620	4
5...479	src radior	31	217	1,705	0,680	0,210	6727	5571	**-17**	%	18600	3,32050	0,243474	4
5...479	src radior	32	217	1,760	0,680	0,210	6944	5748	**-17**	%	18600	3,41840	0,251328	4
5...479	src radior	33	217	1,815	0,680	0,210	7161	5925	**-17**	%	18600	3,51630	0,259182	4

5...1253	Classic Gussradiator	1	245	0,055	1,092	0,210	245	424	**73**	**%**	18600	0,60186	0,012613	4
5...1253	Classic Gussradiator	2	245	0,110	1,092	0,210	490	703	**43**	**%**	18600	0,74508	0,025225	4
5...1253	Classic Gussradiator	3	245	0,165	1,092	0,210	735	983	**34**	**%**	18600	0,88830	0,037838	4
5...1253	Classic Gussradiator	4	245	0,220	1,092	0,210	980	1262	**29**	**%**	18600	1,03152	0,050450	4
5...1253	Classic Gussradiator	10	245	0,550	1,092	0,210	2450	2940	**20**	**%**	18600	1,89084	0,126126	4
5...1253	Classic Gussradiator	11	245	0,605	1,092	0,210	2695	3219	**19**	**%**	18600	2,03406	0,138739	4
5...1253	Classic Gussradiator	12	245	0,660	1,092	0,210	2940	3499	**19**	**%**	18600	2,17728	0,151351	4
5...1253	Classic Gussradiator	13	245	0,715	1,092	0,210	3185	3778	**19**	**%**	18600	2,32050	0,163964	4
5...1253	Classic Gussradiator	14	245	0,770	1,092	0,210	3430	4058	**18**	**%**	18600	2,46372	0,176576	4
5...1253	Classic Gussradiator	15	245	0,825	1,092	0,210	3675	4337	**18**	**%**	18600	2,60694	0,189189	4
5...1253	Classic Gussradiator	16	245	0,880	1,092	0,210	3920	4617	**18**	**%**	18600	2,75016	0,201802	4
5...1253	Classic Gussradiator	17	245	0,935	1,092	0,210	4165	4897	**18**	**%**	18600	2,89338	0,214414	4
5...1253	Classic Gussradiator	18	245	0,990	1,092	0,210	4410	5176	**17**	**%**	18600	3,03660	0,227027	4
5...1253	Classic Gussradiator	19	245	1,045	1,092	0,210	4655	5456	**17**	**%**	18600	3,17982	0,239639	4
5...1253	Classic Gussradiator	20	245	1,100	1,092	0,210	4900	5735	**17**	**%**	18600	3,32304	0,252252	4
5...1253	Classic Gussradiator	21	245	1,155	1,092	0,210	5145	6015	**17**	**%**	18600	3,46626	0,264865	4
5...1253	Classic Gussradiator	22	245	1,210	1,092	0,210	5390	6294	**17**	**%**	18600	3,60948	0,277477	4
5...1253	Classic Gussradiator	23	245	1,265	1,092	0,210	5635	6574	**17**	**%**	18600	3,75270	0,290090	4
5...1253	Classic Gussradiator	24	245	1,320	1,092	0,210	5880	6854	**17**	**%**	18600	3,89592	0,302702	4
5...1253	Classic Gussradiator	25	245	1,375	1,092	0,210	6125	7133	**16**	**%**	18600	4,03914	0,315315	4
5...1253	Classic Gussradiator	26	245	1,430	1,092	0,210	6370	7413	**16**	**%**	18600	4,18236	0,327928	4
5...1253	Classic Gussradiator	27	245	1,485	1,092	0,210	6615	7692	**16**	**%**	18600	4,32558	0,340540	4
5...1253	Classic Gussradiator	28	245	1,540	1,092	0,210	6860	7972	**16**	**%**	18600	4,46880	0,353153	4
5...1253	Classic Gussradiator	29	245	1,595	1,092	0,210	7105	8251	**16**	**%**	18600	4,61202	0,365765	4

3.5 Comparative values for radiators of type 5 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elet	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
EN442 - Anlage	BIASI - LBT 2/880	1	100,06	0,060	0,880	0,070	100	140	**39**	%	17600	0,23720	0,003696	5
EN442 - Anlage	BIASI - LBT 2/880	2	100,06	0,120	0,880	0,070	200	240	**20**	%	17600	0,35120	0,007392	5
EN442 - Anlage	BIASI - LBT 2/880	3	100,06	0,180	0,880	0,070	300	341	**14**	%	17600	0,46520	0,011088	5
EN442 - Anlage	BIASI - LBT 2/880	4	100,06	0,240	0,880	0,070	400	442	**10**	%	17600	0,57920	0,014784	5
EN442 - Anlage	BIASI - LBT 2/880	5	100,06	0,300	0,880	0,070	500	543	**9**	%	17600	0,69320	0,018480	5
EN442 - Anlage	BIASI - LBT 2/880	6	100,06	0,360	0,880	0,070	600	644	**7**	%	17600	0,80720	0,022176	5
EN442 - Anlage	BIASI - LBT 2/880	7	100,06	0,420	0,880	0,070	700	745	**6**	%	17600	0,92120	0,025872	5
EN442 - Anlage	BIASI - LBT 2/880	8	100,06	0,480	0,880	0,070	800	845	**6**	%	17600	1,03520	0,029568	5
EN442 - Anlage	BIASI - LBT 2/880	9	100,06	0,540	0,880	0,070	901	946	**5**	%	17600	1,14920	0,033264	5
EN442 - Anlage	BIASI - LBT 2/880	10	100,06	0,600	0,880	0,070	1001	1047	**5**	%	17600	1,26320	0,036960	5
EN442 - Anlage	BIASI - LBT 2/880	11	100,06	0,660	0,880	0,070	1101	1148	**4**	%	17600	1,37720	0,040656	5
EN442 - Anlage	BIASI - LBT 2/880	16	100,06	0,960	0,880	0,070	1601	1652	**3**	%	17600	1,94720	0,059136	5
EN442 - Anlage	BIASI - LBT 4/580	1	120,15	0,060	0,580	0,146	120	170	**41**	%	17600	0,25648	0,005081	5
EN442 - Anlage	BIASI - LBT 4/580	2	120,15	0,120	0,580	0,146	240	287	**19**	%	17600	0,34360	0,010162	5
EN442 - Anlage	BIASI - LBT 4/580	3	120,15	0,180	0,580	0,146	360	404	**12**	%	17600	0,43072	0,015242	5
EN442 - Anlage	BIASI - LBT 4/580	4	120,15	0,240	0,580	0,146	481	520	**8**	%	17600	0,51784	0,020323	5
EN442 - Anlage	BIASI - LBT 4/580	5	120,15	0,300	0,580	0,146	601	637	**6**	%	17600	0,60496	0,025404	5
EN442 - Anlage	BIASI - LBT 4/580	6	120,15	0,360	0,580	0,146	721	754	**5**	%	17600	0,69208	0,030485	5
EN442 - Anlage	BIASI - LBT 6/430	1	134,84	0,060	0,430	0,225	135	188	**39**	%	17600	0,27210	0,005805	5
EN442 - Anlage	BIASI - LBT 6/430	2	134,84	0,120	0,430	0,225	270	314	**17**	%	17600	0,35070	0,011610	5
EN442 - Anlage	BIASI - LBT 6/430	3	134,84	0,180	0,430	0,225	405	441	**9**	%	17600	0,42930	0,017415	5
EN442 - Anlage	BIASI - LBT 6/430	4	134,84	0,240	0,430	0,225	539	568	**5**	%	17600	0,50790	0,023220	5
EN442 - Anlage	BIASI - LBT 6/430	17	134,84	1,020	0,430	0,225	2292	2217	**-3**	%	17600	1,52970	0,098685	5
EN442 - Anlage	BIASI - LBT 6/430	18	134,84	1,080	0,430	0,225	2427	2344	**-3**	%	17600	1,60830	0,104490	5
EN442 - Anlage	BIASI - LBT 6/430	20	134,84	1,200	0,430	0,225	2697	2598	**-4**	%	17600	1,76550	0,116100	5
EN442 - Anlage	BIASI - LBT 6/430	21	134,84	1,260	0,430	0,225	2832	2725	**-4**	%	17600	1,84410	0,121905	5
EN442 - Anlage	BIASI - LBT 6/430	22	134,84	1,320	0,430	0,225	2966	2851	**-4**	%	17600	1,92270	0,127710	5
EN442 - Anlage	BIASI - LBT 4/680	1	137,51	0,060	0,680	0,146	138	198	**44**	%	17600	0,29768	0,005957	5
EN442 - Anlage	BIASI - LBT 4/680	2	137,51	0,120	0,680	0,146	275	334	**22**	%	17600	0,39680	0,011914	5
EN442 - Anlage	BIASI - LBT 4/680	3	137,51	0,180	0,680	0,146	413	470	**14**	%	17600	0,49592	0,017870	5
EN442 - Anlage	BIASI - LBT 4/680	4	137,51	0,240	0,680	0,146	550	606	**10**	%	17600	0,59504	0,023827	5
EN442 - Anlage	BIASI - LBT 4/680	5	137,51	0,300	0,680	0,146	688	742	**8**	%	17600	0,69416	0,029784	5
EN442 - Anlage	BIASI - LBT 4/680	6	137,51	0,360	0,680	0,146	825	878	**6**	%	17600	0,79328	0,035741	5
EN442 - Anlage	BIASI - LBT 4/680	7	137,51	0,420	0,680	0,146	963	1014	**5**	%	17600	0,89240	0,041698	5
EN442 - Anlage	BIASI - LBT 4/680	10	137,51	0,600	0,680	0,146	1375	1422	**3**	%	17600	1,18976	0,059568	5
EN442 - Anlage	BIASI - LBT 9/300	1	142,29	0,060	0,300	0,340	142	196	**38**	%	17600	0,28080	0,006120	5
EN442 - Anlage	BIASI - LBT 9/300	2	142,29	0,120	0,300	0,340	285	328	**15**	%	17600	0,35760	0,012240	5
EN442 - Anlage	BIASI - LBT 9/300	3	142,29	0,180	0,300	0,340	427	460	**8**	%	17600	0,43440	0,018360	5
EN442 - Anlage	BIASI - LBT 9/300	4	142,29	0,240	0,300	0,340	569	591	**4**	%	17600	0,51120	0,024480	5
5...357	Strebel - Columnia	1	150	0,060	0,774	0,160	150	244	**62**	%	17600	0,35976	0,007430	5
5...357	Strebel - Columnia	2	150	0,120	0,774	0,160	300	410	**37**	%	17600	0,47184	0,014861	5
5...357	Strebel - Columnia	3	150	0,180	0,774	0,160	450	576	**28**	%	17600	0,58392	0,022291	5
5...357	Strebel - Columnia	4	150	0,240	0,774	0,160	600	742	**24**	%	17600	0,69600	0,029722	5
5...357	Strebel - Columnia	5	150	0,300	0,774	0,160	750	908	**21**	%	17600	0,80808	0,037152	5
5...357	Strebel - Columnia	6	150	0,360	0,774	0,160	900	1074	**19**	%	17600	0,92016	0,044582	5
5...357	Strebel - Columnia	7	150	0,420	0,774	0,160	1050	1240	**18**	%	17600	1,03224	0,052013	5
5...357	Strebel - Columnia	8	150	0,480	0,774	0,160	1200	1406	**17**	%	17600	1,14432	0,059443	5
5...357	Strebel - Columnia	9	150	0,540	0,774	0,160	1350	1571	**16**	%	17600	1,25640	0,066874	5
5...357	Strebel - Columnia	10	150	0,600	0,774	0,160	1500	1737	**16**	%	17600	1,36848	0,074304	5
5...357	Strebel - Columnia	11	150	0,660	0,774	0,160	1650	1903	**15**	%	17600	1,48056	0,081734	5
5...357	Strebel - Columnia	12	150	0,720	0,774	0,160	1800	2069	**15**	%	17600	1,59264	0,089165	5
5...357	Strebel - Columnia	13	150	0,780	0,774	0,160	1950	2235	**15**	%	17600	1,70472	0,096595	5
5...357	Strebel - Columnia	14	150	0,840	0,774	0,160	2100	2401	**14**	%	17600	1,81680	0,104026	5
5...357	Strebel - Columnia	15	150	0,900	0,774	0,160	2250	2567	**14**	%	17600	1,92888	0,111456	5
5...357	Strebel - Columnia	16	150	0,960	0,774	0,160	2400	2733	**14**	%	17600	2,04096	0,118886	5
5...357	Strebel - Columnia	17	150	1,020	0,774	0,160	2550	2899	**14**	%	17600	2,15304	0,126317	5
5...357	Strebel - Columnia	18	150	1,080	0,774	0,160	2700	3065	**14**	%	17600	2,26512	0,133747	5
5...357	Strebel - Columnia	19	150	1,140	0,774	0,160	2850	3231	**13**	%	17600	2,37720	0,141178	5
5...357	Strebel - Columnia	20	150	1,200	0,774	0,160	3000	3397	**13**	%	17600	2,48928	0,148608	5
5...357	Strebel - Columnia	21	150	1,260	0,774	0,160	3150	3563	**13**	%	17600	2,60136	0,156038	5
5...357	Strebel - Columnia	22	150	1,320	0,774	0,160	3300	3729	**13**	%	17600	2,71344	0,163469	5
5.....483	Src - Edenroc (60)	1	154,1	0,060	0,417	0,218	154	177	**15**	%	17600	0,25801	0,005454	5
5.....483	Src - Edenroc (60)	5	154,1	0,300	0,417	0,218	771	657	**-15**	%	17600	0,56281	0,027272	5
5.....483	Src - Edenroc (60)	6	154,1	0,360	0,417	0,218	925	777	**-16**	%	17600	0,63901	0,032726	5
5.....483	Src - Edenroc (60)	7	154,1	0,420	0,417	0,218	1079	897	**-17**	%	17600	0,71521	0,038181	5
5.....483	Src - Edenroc (60)	8	154,1	0,480	0,417	0,218	1233	1016	**-18**	%	17600	0,79141	0,043635	5
5.....483	Src - Edenroc (60)	9	154,1	0,540	0,417	0,218	1387	1136	**-18**	%	17600	0,86761	0,049089	5
5.....483	Src - Edenroc (60)	10	154,1	0,600	0,417	0,218	1541	1256	**-18**	%	17600	0,94381	0,054544	5
5.....483	Src - Edenroc (60)	11	154,1	0,660	0,417	0,218	1695	1376	**-19**	%	17600	1,02001	0,059998	5
5.....483	Src - Edenroc (60)	12	154,1	0,720	0,417	0,218	1849	1496	**-19**	%	17600	1,09621	0,065452	5
5.....483	Src - Edenroc (60)	13	154,1	0,780	0,417	0,218	2003	1616	**-19**	%	17600	1,17241	0,070907	5
5.....483	Src - Edenroc (60)	14	154,1	0,840	0,417	0,218	2157	1736	**-20**	%	17600	1,24861	0,076361	5
5.....483	Src - Edenroc (60)	15	154,1	0,900	0,417	0,218	2312	1856	**-20**	%	17600	1,32481	0,081815	5
5.....483	Src - Edenroc (60)	16	154,1	0,960	0,417	0,218	2466	1976	**-20**	%	17600	1,40101	0,087270	5
5.....483	Src - Edenroc (60)	17	154,1	1,020	0,417	0,218	2620	2096	**-20**	%	17600	1,47721	0,092724	5
5.....483	Src - Edenroc (60)	18	154,1	1,080	0,417	0,218	2774	2216	**-20**	%	17600	1,55341	0,098178	5
5.....483	Src - Edenroc (60)	19	154,1	1,140	0,417	0,218	2928	2336	**-20**	%	17600	1,62961	0,103633	5
5.....483	Src - Edenroc (60)	20	154,1	1,200	0,417	0,218	3082	2456	**-20**	%	17600	1,70581	0,109087	5
5.....483	Src - Edenroc (60)	21	154,1	1,260	0,417	0,218	3236	2575	**-20**	%	17600	1,78201	0,114542	5
5.....483	Src - Edenroc (60)	22	154,1	1,320	0,417	0,218	3390	2695	**-20**	%	17600	1,85821	0,119996	5
5.....483	Src - Edenroc (60)	23	154,1	1,380	0,417	0,218	3544	2815	**-21**	%	17600	1,93441	0,125450	5
5.....483	Src - Edenroc (60)	24	154,1	1,440	0,417	0,218	3698	2935	**-21**	%	17600	2,01061	0,130905	5
5.....483	Src - Edenroc (60)	25	154,1	1,500	0,417	0,218	3853	3055	**-21**	%	17600	2,08681	0,136359	5
5.....483	Src - Edenroc (60)	26	154,1	1,560	0,417	0,218	4007	3175	**-21**	%	17600	2,16301	0,141813	5
5.....483	Src - Edenroc (60)	27	154,1	1,620	0,417	0,218	4161	3295	**-21**	%	17600	2,23921	0,147268	5
5.....483	Src - Edenroc (60)	28	154,1	1,680	0,417	0,218	4315	3415	**-21**	%	17600	2,31541	0,152722	5
5.....483	Src - Edenroc (60)	29	154,1	1,740	0,417	0,218	4469	3535	**-21**	%	17600	2,39161	0,158176	5
5...297	Buderus (80)	1	155	0,080	0,610	0,220	155	315	**103**	%	17600	0,40120	0,010736	5
5...297	Buderus (80)	2	155	0,160	0,610	0,220	310	546	**76**	%	17600	0,53400	0,021472	5
5...297	Buderus (80)	3	155	0,240	0,610	0,220	465	776	**67**	%	17600	0,66680	0,032208	5
5...297	Buderus (80)	4	155	0,320	0,610	0,220	620	1007	**62**	%	17600	0,79960	0,042944	5
5...297	Buderus (80)	5	155	0,400	0,610	0,220	775	1238	**60**	%	17600	0,93240	0,053680	5
5...297	Buderus (80)	6	155	0,480	0,610	0,220	930	1468	**58**	%	17600	1,06520	0,064416	5
5...297	Buderus (80)	7	155	0,560	0,610	0,220	1085	1699	**57**	%	17600	1,19800	0,075152	5
5...297	Buderus (80)	8	155	0,640	0,610	0,220	1240	1930	**56**	%	17600	1,33080	0,085888	5
5...297	Buderus (80)	9	155	0,720	0,610	0,220	1395	2160	**55**	%	17600	1,46360	0,096624	5

5...297	Buderus (80)	10	155	0,800	0,610	0,220	1550	2391	**54**	**%**	17600	1,59640	0,107360	5
5...297	Buderus (80)	11	155	0,880	0,610	0,220	1705	2621	**54**	**%**	17600	1,72920	0,118096	5
5...297	Buderus (80)	12	155	0,960	0,610	0,220	1860	2852	**53**	**%**	17600	1,86200	0,128832	5
5...297	Buderus (80)	13	155	1,040	0,610	0,220	2015	3083	**53**	**%**	17600	1,99480	0,139568	5
5...297	Buderus (80)	14	155	1,120	0,610	0,220	2170	3313	**53**	**%**	17600	2,12760	0,150304	5
5...297	Buderus (80)	15	155	1,200	0,610	0,220	2325	3544	**52**	**%**	17600	2,26040	0,161040	5
5...297	Buderus (80)	16	155	1,280	0,610	0,220	2480	3775	**52**	**%**	17600	2,39320	0,171776	5
5...297	Buderus (80)	17	155	1,360	0,610	0,220	2635	4005	**52**	**%**	17600	2,52600	0,182512	5
5...297	Buderus (80)	18	155	1,440	0,610	0,220	2790	4236	**52**	**%**	17600	2,65880	0,193248	5
5...297	Buderus (80)	19	155	1,520	0,610	0,220	2945	4467	**52**	**%**	17600	2,79160	0,203984	5
5...297	Buderus (80)	20	155	1,600	0,610	0,220	3100	4697	**52**	**%**	17600	2,92440	0,214720	5
5...297	Buderus (80)	21	155	1,680	0,610	0,220	3255	4928	**51**	**%**	17600	3,05720	0,225456	5
5...297	Buderus (80)	22	155	1,760	0,610	0,220	3410	5159	**51**	**%**	17600	3,19000	0,236192	5
5...297	Buderus (80)	23	155	1,840	0,610	0,220	3565	5389	**51**	**%**	17600	3,32280	0,246928	5
5...297	Buderus (80)	24	155	1,920	0,610	0,220	3720	5620	**51**	**%**	17600	3,45560	0,257664	5
5...297	Buderus (80)	25	155	2,000	0,610	0,220	3875	5851	**51**	**%**	17600	3,58840	0,268400	5
5...297	Buderus (80)	26	155	2,080	0,610	0,220	4030	6081	**51**	**%**	17600	3,72120	0,279136	5
5...297	Buderus (80)	27	155	2,160	0,610	0,220	4185	6312	**51**	**%**	17600	3,85400	0,289872	5
5...297	Buderus (80)	28	155	2,240	0,600	0,220	4340	6440	**48**	**%**	17600	3,93760	0,295680	5
5...297	Buderus (80)	29	155	2,320	0,610	0,220	4495	6773	**51**	**%**	17600	4,11960	0,311344	5
5...297	Buderus (80)	30	155	2,400	0,610	0,220	4650	7004	**51**	**%**	17600	4,25240	0,322080	5
EN442 - Anlage	BIASI - LBT 6/580	1	158,13	0,060	0,580	0,225	158	250	**58**	**%**	17600	0,35760	0,007830	5
EN442 - Anlage	BIASI - LBT 6/580	2	158,13	0,120	0,580	0,225	316	418	**32**	**%**	17600	0,45420	0,015660	5
EN442 - Anlage	BIASI - LBT 6/580	3	158,13	0,180	0,580	0,225	474	586	**24**	**%**	17600	0,55080	0,023490	5
EN442 - Anlage	BIASI - LBT 6/580	4	158,13	0,240	0,580	0,225	633	755	**19**	**%**	17600	0,64740	0,031320	5
EN442 - Anlage	BIASI - LBT 6/580	5	158,13	0,300	0,580	0,225	791	923	**17**	**%**	17600	0,74400	0,039150	5
EN442 - Anlage	BIASI - LBT 6/580	6	158,13	0,360	0,580	0,225	949	1091	**15**	**%**	17600	0,84060	0,046980	5
EN442 - Anlage	BIASI - LBT 6/580	7	158,13	0,420	0,580	0,225	1107	1259	**14**	**%**	17600	0,93720	0,054810	5
EN442 - Anlage	BIASI - LBT 6/580	8	158,13	0,480	0,580	0,225	1265	1427	**13**	**%**	17600	1,03380	0,062640	5
EN442 - Anlage	BIASI - LBT 6/580	9	158,13	0,540	0,580	0,225	1423	1595	**12**	**%**	17600	1,13040	0,070470	5
EN442 - Anlage	BIASI - LBT 6/580	10	158,13	0,600	0,580	0,225	1581	1763	**12**	**%**	17600	1,22700	0,078300	5
EN442 - Anlage	BIASI - LBT 6/580	11	158,13	0,660	0,580	0,225	1739	1931	**11**	**%**	17600	1,32360	0,086130	5
EN442 - Anlage	BIASI - LBT 6/580	12	158,13	0,720	0,580	0,225	1898	2100	**11**	**%**	17600	1,42020	0,093960	5
EN442 - Anlage	BIASI - LBT 6/580	13	158,13	0,780	0,580	0,225	2056	2268	**10**	**%**	17600	1,51680	0,101790	5
EN442 - Anlage	BIASI - LBT 6/580	14	158,13	0,840	0,580	0,225	2214	2436	**10**	**%**	17600	1,61340	0,109620	5
EN442 - Anlage	BIASI - LBT 6/580	15	158,13	0,900	0,580	0,225	2372	2604	**10**	**%**	17600	1,71000	0,117450	5
EN442 - Anlage	BIASI - LBT 6/580	16	158,13	0,960	0,580	0,225	2530	2772	**10**	**%**	17600	1,80660	0,125280	5
EN442 - Anlage	BIASI - LBT 6/580	17	158,13	1,020	0,580	0,225	2688	2940	**9**	**%**	17600	1,90320	0,133110	5
EN442 - Anlage	BIASI - LBT 6/580	18	158,13	1,080	0,580	0,225	2846	3108	**9**	**%**	17600	1,99980	0,140940	5
EN442 - Anlage	BIASI - LBT 6/580	19	158,13	1,140	0,580	0,225	3004	3277	**9**	**%**	17600	2,09640	0,148770	5
EN442 - Anlage	BIASI - LBT 6/580	20	158,13	1,200	0,580	0,225	3163	3445	**9**	**%**	17600	2,19300	0,156600	5
5.....966	Union (80)	1	170	0,080	0,645	0,220	170	332	**96**	**%**	17600	0,42220	0,011352	5
5.....966	Union (80)	2	170	0,160	0,645	0,220	340	576	**69**	**%**	17600	0,56060	0,022704	5
5.....966	Union (80)	3	170	0,240	0,645	0,220	510	819	**61**	**%**	17600	0,69900	0,034056	5
5.....966	Union (80)	4	170	0,320	0,645	0,220	680	1062	**56**	**%**	17600	0,83740	0,045408	5
5.....966	Union (80)	5	170	0,400	0,645	0,220	850	1305	**54**	**%**	17600	0,97580	0,056760	5
5.....966	Union (80)	6	170	0,480	0,645	0,220	1020	1549	**52**	**%**	17600	1,11420	0,068112	5
5.....966	Union (80)	7	170	0,560	0,645	0,220	1190	1792	**51**	**%**	17600	1,25260	0,079464	5
5.....966	Union (80)	8	170	0,640	0,645	0,220	1360	2035	**50**	**%**	17600	1,39100	0,090816	5
5.....966	Union (80)	9	170	0,720	0,645	0,220	1530	2278	**49**	**%**	17600	1,52940	0,102168	5
5.....966	Union (80)	10	170	0,800	0,645	0,220	1700	2522	**48**	**%**	17600	1,66780	0,113520	5
5.....966	Union (80)	11	170	0,880	0,645	0,220	1870	2765	**48**	**%**	17600	1,80620	0,124872	5
5.....966	Union (80)	12	170	0,960	0,645	0,220	2040	3008	**47**	**%**	17600	1,94460	0,136224	5
5.....966	Union (80)	13	170	1,040	0,645	0,220	2210	3251	**47**	**%**	17600	2,08300	0,147576	5
5.....966	Union (80)	14	170	1,120	0,645	0,220	2380	3495	**47**	**%**	17600	2,22140	0,158928	5
5.....966	Union (80)	15	170	1,200	0,645	0,220	2550	3738	**47**	**%**	17600	2,35980	0,170280	5
5.....966	Union (80)	16	170	1,280	0,645	0,220	2720	3981	**46**	**%**	17600	2,49820	0,181632	5
5.....966	Union (80)	17	170	1,360	0,645	0,220	2890	4224	**46**	**%**	17600	2,63660	0,192984	5
5.....966	Union (80)	18	170	1,440	0,645	0,220	3060	4468	**46**	**%**	17600	2,77500	0,204336	5
5.....966	Union (80)	19	170	1,520	0,645	0,220	3230	4711	**46**	**%**	17600	2,91340	0,215688	5
5.....966	Union (80)	20	170	1,600	0,645	0,220	3400	4954	**46**	**%**	17600	3,05180	0,227040	5
5.....966	Union (80)	21	170	1,680	0,645	0,220	3570	5197	**46**	**%**	17600	3,19020	0,238392	5
5.....966	Union (80)	22	170	1,760	0,645	0,220	3740	5441	**45**	**%**	17600	3,32860	0,249744	5
5.....966	Union (80)	23	170	1,840	0,645	0,220	3910	5684	**45**	**%**	17600	3,46700	0,261096	5
5.....966	Union (80)	24	170	1,920	0,645	0,220	4080	5927	**45**	**%**	17600	3,60540	0,272448	5
5.....966	Union (80)	25	170	2,000	0,645	0,220	4250	6170	**45**	**%**	17600	3,74380	0,283800	5
5.....966	Union (80)	26	170	2,080	0,645	0,220	4420	6414	**45**	**%**	17600	3,88220	0,295152	5
5.....966	Union (80)	27	170	2,160	0,645	0,220	4590	6657	**45**	**%**	17600	4,02060	0,306504	5
5.....966	Union (80)	28	170	2,240	0,645	0,220	4760	6900	**45**	**%**	17600	4,15900	0,317856	5
5.....966	Union (80)	29	170	2,320	0,645	0,220	4930	7143	**45**	**%**	17600	4,29740	0,329208	5
5.....966	Union (80)	30	170	2,400	0,645	0,220	5100	7387	**45**	**%**	17600	4,43580	0,340560	5
5.....966	Union (80)	31	170	2,480	0,645	0,220	5270	7630	**45**	**%**	17600	4,57420	0,351912	5
5.....966	Union (80)	32	170	2,560	0,645	0,220	5440	7873	**45**	**%**	17600	4,71260	0,363264	5
5.....966	Union (80)	33	170	2,640	0,645	0,220	5610	8116	**45**	**%**	17600	4,85100	0,374616	5
5.....966	Union (80)	34	170	2,720	0,645	0,220	5780	8360	**45**	**%**	17600	4,98940	0,385968	5
5.....966	Union (80)	35	170	2,800	0,645	0,220	5950	8603	**45**	**%**	17600	5,12780	0,397320	5
EN442 - Anlage	BIASI - LBT 4/880	1	172,93	0,060	0,880	0,146	173	255	**47**	**%**	17600	0,38008	0,007709	5
EN442 - Anlage	BIASI - LBT 6/680	1	172,93	0,060	0,580	0,225	173	250	**45**	**%**	17600	0,35760	0,007830	5
EN442 - Anlage	BIASI - LBT 4/880	2	172,93	0,120	0,880	0,146	346	429	**24**	**%**	17600	0,50320	0,015418	5
EN442 - Anlage	BIASI - LBT 6/680	2	172,93	0,120	0,580	0,225	346	418	**21**	**%**	17600	0,45420	0,015660	5
EN442 - Anlage	BIASI - LBT 4/880	3	172,93	0,180	0,880	0,146	519	604	**16**	**%**	17600	0,62632	0,023126	5
EN442 - Anlage	BIASI - LBT 6/680	3	172,93	0,180	0,580	0,225	519	586	**13**	**%**	17600	0,55080	0,023490	5
EN442 - Anlage	BIASI - LBT 4/880	4	172,93	0,240	0,880	0,146	692	778	**12**	**%**	17600	0,74944	0,030835	5
EN442 - Anlage	BIASI - LBT 6/680	4	172,93	0,240	0,580	0,225	692	755	**9**	**%**	17600	0,64740	0,031320	5
EN442 - Anlage	BIASI - LBT 4/880	5	172,93	0,300	0,880	0,146	865	952	**10**	**%**	17600	0,87256	0,038544	5
EN442 - Anlage	BIASI - LBT 6/680	5	172,93	0,300	0,580	0,225	865	923	**7**	**%**	17600	0,74400	0,039150	5
EN442 - Anlage	BIASI - LBT 4/880	6	172,93	0,360	0,880	0,146	1038	1127	**9**	**%**	17600	0,99568	0,046253	5
EN442 - Anlage	BIASI - LBT 6/680	6	172,93	0,360	0,580	0,225	1038	1091	**5**	**%**	17600	0,84060	0,046980	5
EN442 - Anlage	BIASI - LBT 4/880	7	172,93	0,420	0,880	0,146	1211	1301	**7**	**%**	17600	1,11880	0,053962	5
EN442 - Anlage	BIASI - LBT 6/680	7	172,93	0,420	0,580	0,225	1211	1259	**4**	**%**	17600	0,93720	0,054810	5
EN442 - Anlage	BIASI - LBT 4/880	8	172,93	0,480	0,880	0,146	1383	1475	**7**	**%**	17600	1,24192	0,061670	5
EN442 - Anlage	BIASI - LBT 4/880	9	172,93	0,540	0,880	0,146	1556	1650	**6**	**%**	17600	1,36504	0,069379	5
EN442 - Anlage	BIASI - LBT 4/880	10	172,93	0,600	0,880	0,146	1729	1824	**5**	**%**	17600	1,48816	0,077088	5
EN442 - Anlage	BIASI - LBT 4/880	11	172,93	0,660	0,880	0,146	1902	1998	**5**	**%**	17600	1,61128	0,084797	5
EN442 - Anlage	BIASI - LBT 4/880	12	172,93	0,720	0,880	0,146	2075	2173	**5**	**%**	17600	1,73440	0,092506	5
EN442 - Anlage	BIASI - LBT 4/880	13	172,93	0,780	0,880	0,146	2248	2347	**4**	**%**	17600	1,85752	0,100214	5
EN442 - Anlage	BIASI - LBT 4/880	16	172,93	0,960	0,880	0,146	2767	2870	**4**	**%**	17600	2,22688	0,123341	5
5...357	Strebel - Columnia	1	230	0,060	1,174	0,160	230	367	**59**	**%**	17600	0,53576	0,011270	5
5...357	Strebel - Columnia	2	230	0,120	1,174	0,160	460	615	**34**	**%**	17600	0,69584	0,022541	5
5...357	Strebel - Columnia	3	230	0,180	1,174	0,160	690	864	**25**	**%**	17600	0,85592	0,033811	5
5...357	Strebel - Columnia	4	230	0,240	1,174	0,160	920	1112	**21**	**%**	17600	1,01600	0,045082	5
5...357	Strebel - Columnia	5	230	0,300	1,174	0,160	1150	1361	**18**	**%**	17600	1,17608	0,056352	5
5...357	Strebel - Columnia	6	230	0,360	1,174	0,160	1380	1610	**17**	**%**	17600	1,33616	0,067622	5
5...357	Strebel - Columnia	7	230	0,420	1,174	0,160	1610	1858	**15**	**%**	17600	1,49624	0,078893	5
5...357	Strebel - Columnia	8	230	0,480	1,174	0,160	1840	2107	**15**	**%**	17600	1,65632	0,090163	5
5...357	Strebel - Columnia	9	230	0,540	1,174	0,160	2070	2356	**14**	**%**	17600	1,81640	0,101434	5
5...357	Strebel - Columnia	10	230	0,600	1,174	0,160	2300	2604	**13**	**%**	17600	1,97648	0,112704	5
5...357	Strebel - Columnia	11	230	0,660	1,174	0,160	2530	2853	**13**	**%**	17600	2,13656	0,123974	5
5...357	Strebel - Columnia	12	230	0,720	1,174	0,160	2760	3101	**12**	**%**	17600	2,29664	0,135245	5
5...357	Strebel - Columnia	13	230	0,780	1,174	0,160	2990	3350	**12**	**%**	17600	2,45672	0,146515	5
5...357	Strebel - Columnia	14	230	0,840	1,174	0,160	3220	3599	**12**	**%**	17600	2,61680	0,157786	5
5...357	Strebel - Columnia	15	230	0,900	1,174	0,160	3450	3847	**12**	**%**	17600	2,77688	0,169056	5

3.6 Comparative values for radiators of type 6 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ			coefficient	surface	volume	
	Producer	num.		length	height	depth		UNI 10200			(k)	(S)	(V)	
C..MID	Model	elet	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
5.....592	Baufa - Sanaplan(86)	1	152,65	0,086	0,980	0,139	153	344	**125**	**%**	16900	0,46491	0,011715	6
5.....592	Baufa - Sanaplan(86)	2	152,65	0,172	0,980	0,139	305	602	**97**	**%**	16900	0,65738	0,023430	6
5.....592	Baufa - Sanaplan(86)	3	152,65	0,258	0,980	0,139	458	861	**88**	**%**	16900	0,84984	0,035145	6
5.....592	Baufa - Sanaplan(86)	4	152,65	0,344	0,980	0,139	611	1119	**83**	**%**	16900	1,04231	0,046860	6
5.....592	Baufa - Sanaplan(86)	5	152,65	0,430	0,980	0,139	763	1378	**80**	**%**	16900	1,23478	0,058575	6
5.....592	Baufa - Sanaplan(86)	6	152,65	0,516	0,980	0,139	916	1636	**79**	**%**	16900	1,42725	0,070290	6
5.....592	Baufa - Sanaplan(86)	7	152,65	0,602	0,980	0,139	1069	1894	**77**	**%**	16900	1,61972	0,082004	6
5.....592	Baufa - Sanaplan(86)	8	152,65	0,688	0,980	0,139	1221	2153	**76**	**%**	16900	1,81218	0,093719	6
5.....592	Baufa - Sanaplan(86)	9	152,65	0,774	0,980	0,139	1374	2411	**76**	**%**	16900	2,00465	0,105434	6
5.....592	Baufa - Sanaplan(86)	10	152,65	0,860	0,980	0,139	1527	2670	**75**	**%**	16900	2,19712	0,117149	6
5.....592	Baufa - Sanaplan(86)	11	152,65	0,946	0,980	0,139	1679	2928	**74**	**%**	16900	2,38959	0,128864	6
5.....592	Baufa - Sanaplan(86)	12	152,65	1,032	0,980	0,139	1832	3187	**74**	**%**	16900	2,58206	0,140579	6
5.....592	Baufa - Sanaplan(86)	13	152,65	1,118	0,980	0,139	1984	3445	**74**	**%**	16900	2,77452	0,152294	6
5.....592	Baufa - Sanaplan(86)	14	152,65	1,204	0,980	0,139	2137	3703	**73**	**%**	16900	2,96699	0,164009	6
5.....592	Baufa - Sanaplan(86)	15	152,65	1,290	0,980	0,139	2290	3962	**73**	**%**	16900	3,15946	0,175724	6
5.....592	Baufa - Sanaplan(86)	16	152,65	1,376	0,980	0,139	2442	4220	**73**	**%**	16900	3,35193	0,187439	6
5.....592	Baufa - Sanaplan(86)	17	152,65	1,462	0,980	0,139	2595	4479	**73**	**%**	16900	3,54440	0,199154	6
5.....592	Baufa - Sanaplan(86)	18	152,65	1,548	0,980	0,139	2748	4737	**72**	**%**	16900	3,73686	0,210869	6
5.....592	Baufa - Sanaplan(86)	19	152,65	1,634	0,980	0,139	2900	4995	**72**	**%**	16900	3,92933	0,222583	6
5.....592	Baufa - Sanaplan(86)	20	152,65	1,720	0,980	0,139	3053	5254	**72**	**%**	16900	4,12180	0,234298	6
5.....592	Baufa - Sanaplan(86)	21	152,65	1,806	0,980	0,139	3206	5512	**72**	**%**	16900	4,31427	0,246013	6
5.....592	Baufa - Sanaplan(86)	22	152,65	1,892	0,980	0,139	3358	5771	**72**	**%**	16900	4,50674	0,257728	6
5.....592	Baufa - Sanaplan(86)	23	152,65	1,978	0,980	0,139	3511	6029	**72**	**%**	16900	4,69920	0,269443	6
5.....592	Baufa - Sanaplan(86)	24	152,65	2,064	0,980	0,139	3664	6288	**72**	**%**	16900	4,89167	0,281158	6
5.....592	Baufa - Sanaplan(86)	25	152,65	2,150	0,980	0,139	3816	6546	**72**	**%**	16900	5,08414	0,292873	6
5.....592	Baufa - Sanaplan(86)	26	152,65	2,236	0,980	0,139	3969	6804	**71**	**%**	16900	5,27661	0,304588	6
5.....592	Baufa - Sanaplan(86)	27	152,65	2,322	0,980	0,139	4122	7063	**71**	**%**	16900	5,46908	0,316303	6
5.....592	Baufa - Sanaplan(86)	28	152,65	2,408	0,980	0,139	4274	7321	**71**	**%**	16900	5,66154	0,328018	6
5.....592	Baufa - Sanaplan(86)	29	152,65	2,494	0,980	0,139	4427	7580	**71**	**%**	16900	5,85401	0,339733	6
5.....592	Baufa - Sanaplan(86)	30	152,65	2,580	0,980	0,139	4580	7838	**71**	**%**	16900	6,04648	0,351448	6
5.....592	Baufa - Sanaplan(86)	31	152,65	2,666	0,980	0,139	4732	8096	**71**	**%**	16900	6,23895	0,363163	6
5.....592	Baufa - Sanaplan(86)	32	152,65	2,752	0,980	0,139	4885	8355	**71**	**%**	16900	6,43142	0,374877	6
5.....592	Baufa - Sanaplan(86)	33	152,65	2,838	0,980	0,139	5037	8613	**71**	**%**	16900	6,62388	0,386592	6

3.7 Comparative values for radiators of type 7 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elet	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
5...1330	Chappée	5	92,8	0,300	0,600	0,065	464	387	-17	%	20300	0,47700	0,011700	7
5...1330	Chappée	6	92,8	0,360	0,600	0,065	557	460	-17	%	20300	0,55680	0,014040	7
5...1330	Chappée	7	92,8	0,420	0,600	0,065	650	532	-18	%	20300	0,63660	0,016380	7
5...1330	Chappée	8	92,8	0,480	0,600	0,065	742	605	-19	%	20300	0,71640	0,018720	7
5...1330	Chappée	9	92,8	0,540	0,600	0,065	835	678	-19	%	20300	0,79620	0,021060	7
5...1330	Chappée	10	92,8	0,600	0,600	0,065	928	750	-19	%	20300	0,87600	0,023400	7
5...1330	Chappée	11	92,8	0,660	0,600	0,065	1021	823	-19	%	20300	0,95580	0,025740	7
5...1330	Chappée	12	92,8	0,720	0,600	0,065	1114	895	-20	%	20300	1,03560	0,028080	7
5...1330	Chappée	13	92,8	0,780	0,600	0,065	1206	968	-20	%	20300	1,11540	0,030420	7
5...1330	Chappée	14	92,8	0,840	0,600	0,065	1299	1040	-20	%	20300	1,19520	0,032760	7
5...1330	Chappée	15	92,8	0,900	0,600	0,065	1392	1113	-20	%	20300	1,27500	0,035100	7
5...1330	Chappée	16	92,8	0,960	0,600	0,065	1485	1185	-20	%	20300	1,35480	0,037440	7
5...1330	Chappée	17	92,8	1,020	0,600	0,065	1578	1258	-20	%	20300	1,43460	0,039780	7
5...1330	Chappée	18	92,8	1,080	0,600	0,065	1670	1331	-20	%	20300	1,51440	0,042120	7
5...1330	Chappée	19	92,8	1,140	0,600	0,065	1763	1403	-20	%	20300	1,59420	0,044460	7
5...1330	Chappée	20	92,8	1,200	0,600	0,065	1856	1476	-20	%	20300	1,67400	0,046800	7
5...1330	Chappée	21	92,8	1,260	0,600	0,065	1949	1548	-21	%	20300	1,75380	0,049140	7
5...1330	Chappée	22	92,8	1,320	0,600	0,065	2042	1621	-21	%	20300	1,83360	0,051480	7
5...1330	Chappée	23	92,8	1,380	0,600	0,065	2134	1693	-21	%	20300	1,91340	0,053820	7
5...1330	Chappée	24	92,8	1,440	0,600	0,065	2227	1766	-21	%	20300	1,99320	0,056160	7
5...1330	Chappée	25	92,8	1,500	0,600	0,065	2320	1838	-21	%	20300	2,07300	0,058500	7
5...1330	Chappée	26	92,8	1,560	0,600	0,065	2413	1911	-21	%	20300	2,15280	0,060840	7
5...1330	Chappée	27	92,8	1,620	0,600	0,065	2506	1984	-21	%	20300	2,23260	0,063180	7
5...1330	Chappée	28	92,8	1,680	0,600	0,065	2598	2056	-21	%	20300	2,31240	0,065520	7
5...1330	Chappée	29	92,8	1,740	0,600	0,065	2691	2129	-21	%	20300	2,39220	0,067860	7
5...1330	Chappée	30	92,8	1,800	0,600	0,065	2784	2201	-21	%	20300	2,47200	0,070200	7
5...1330	Chappée	31	92,8	1,860	0,600	0,065	2877	2274	-21	%	20300	2,55180	0,072540	7
5...612	Ideal Standard - Rafael	14	114	0,840	0,558	0,094	1596	1271	-20	%	20300	1,20026	0,044060	7
5...612	Ideal Standard - Rafael	15	114	0,900	0,558	0,094	1710	1360	-20	%	20300	1,27850	0,047207	7
5...612	Ideal Standard - Rafael	16	114	0,960	0,558	0,094	1824	1448	-21	%	20300	1,35674	0,050354	7
5...612	Ideal Standard - Rafael	17	114	1,020	0,558	0,094	1938	1537	-21	%	20300	1,43498	0,053501	7
5...612	Ideal Standard - Rafael	18	114	1,080	0,558	0,094	2052	1625	-21	%	20300	1,51322	0,056648	7
5...612	Ideal Standard - Rafael	20	114	1,200	0,558	0,094	2280	1802	-21	%	20300	1,66970	0,062942	7
5...612	Ideal Standard - Rafael	21	114	1,260	0,558	0,094	2394	1890	-21	%	20300	1,74794	0,066090	7
5...612	Ideal Standard - Rafael	22	114	1,320	0,558	0,094	2508	1979	-21	%	20300	1,82618	0,069237	7
5...612	Ideal Standard - Rafael	23	114	1,380	0,558	0,094	2622	2067	-21	%	20300	1,90442	0,072384	7
5...612	Ideal Standard - Rafael	24	114	1,440	0,558	0,094	2736	2156	-21	%	20300	1,98266	0,075531	7
5...612	Ideal Standard - Rafael	25	114	1,500	0,558	0,094	2850	2244	-21	%	20300	2,06090	0,078678	7
5...612	Ideal Standard - Rafael	28	114	1,680	0,558	0,094	3192	2510	-21	%	20300	2,29562	0,088119	7
5...612	Ideal Standard - Rafael	29	114	1,740	0,558	0,094	3306	2598	-21	%	20300	2,37386	0,091266	7
5...612	Ideal Standard - Rafael	30	114	1,800	0,558	0,094	3420	2687	-21	%	20300	2,45210	0,094414	7
5...612	Ideal Standard - Rafael	31	114	1,860	0,558	0,094	3534	2775	-21	%	20300	2,53034	0,097561	7
5...612	Ideal Standard - Rafael	32	114	1,920	0,558	0,094	3648	2863	-22	%	20300	2,60858	0,100708	7
5...612	Ideal Standard - Rafael	33	114	1,980	0,558	0,094	3762	2952	-22	%	20300	2,68682	0,103855	7
5...1333	Chappée	10	122	0,630	0,285	0,223	1220	1054	-14	%	20300	0,76719	0,040040	7
5...1333	Chappée	11	122	0,693	0,285	0,223	1342	1155	-14	%	20300	0,83120	0,044044	7
5...1333	Chappée	12	122	0,756	0,285	0,223	1464	1256	-14	%	20300	0,89521	0,048048	7
5...1333	Chappée	13	122	0,819	0,285	0,223	1586	1358	-14	%	20300	0,95921	0,052052	7
5...1333	Chappée	14	122	0,882	0,285	0,223	1708	1459	-15	%	20300	1,02322	0,056056	7
5...1333	Chappée	15	122	0,945	0,285	0,223	1830	1561	-15	%	20300	1,08723	0,060059	7
5...1333	Chappée	16	122	1,008	0,285	0,223	1952	1662	-15	%	20300	1,15124	0,064063	7
5...1333	Chappée	17	122	1,071	0,285	0,223	2074	1763	-15	%	20300	1,21525	0,068067	7
5...1333	Chappée	18	122	1,134	0,285	0,223	2196	1865	-15	%	20300	1,27925	0,072071	7
5...1333	Chappée	19	122	1,197	0,285	0,223	2318	1966	-15	%	20300	1,34326	0,076075	7
5...1333	Chappée	20	122	1,260	0,285	0,223	2440	2067	-15	%	20300	1,40727	0,080079	7
5...1333	Chappée	21	122	1,323	0,285	0,223	2562	2169	-15	%	20300	1,47128	0,084083	7
5...1333	Chappée	22	122	1,386	0,285	0,223	2684	2270	-15	%	20300	1,53529	0,088087	7
5...1333	Chappée	23	122	1,449	0,285	0,223	2806	2372	-15	%	20300	1,59929	0,092091	7
5...1333	Chappée	24	122	1,512	0,285	0,223	2928	2473	-16	%	20300	1,66330	0,096095	7
5...1333	Chappée	25	122	1,575	0,285	0,223	3050	2574	-16	%	20300	1,72731	0,100099	7
5...1333	Chappée	26	122	1,638	0,285	0,223	3172	2676	-16	%	20300	1,79132	0,104103	7
5...1333	Chappée	27	122	1,701	0,285	0,223	3294	2777	-16	%	20300	1,85533	0,108107	7
5...1333	Chappée	28	122	1,764	0,285	0,223	3416	2879	-16	%	20300	1,91933	0,112111	7
5...1333	Chappée	29	122	1,827	0,285	0,223	3538	2980	-16	%	20300	1,98334	0,116115	7
5...1333	Chappée	30	122	1,890	0,285	0,223	3660	3081	-16	%	20300	2,04735	0,120119	7
5...1333	Chappée	31	122	1,953	0,285	0,223	3782	3183	-16	%	20300	2,11136	0,124123	7
5...1333	Chappée	32	122	2,016	0,285	0,223	3904	3284	-16	%	20300	2,17537	0,128127	7
5...1333	Chappée	33	122	2,079	0,285	0,223	4026	3385	-16	%	20300	2,23937	0,132131	7
5...1333	Chappée	34	122	2,142	0,285	0,223	4148	3487	-16	%	20300	2,30338	0,136135	7

3.8 Comparative values for radiators of type 8 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elet	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
EN442 - Anlage	BIASI - PRG 2/566	1	70,47	0,060	0,566	0,060	70	89	**26**	%	21400	0,14304	0,002038	8
EN442 - Anlage	BIASI - PRG 2/566	2	70,47	0,120	0,566	0,060	141	156	**10**	%	21400	0,21816	0,004075	8
EN442 - Anlage	BIASI - PRG 2/566	3	70,47	0,180	0,566	0,060	211	223	**5**	%	21400	0,29328	0,006113	8
EN442 - Anlage	BIASI - PRG 3/880	1	145,2	0,060	0,880	0,095	145	197	**35**	%	21400	0,28420	0,005016	8
EN442 - Anlage	BIASI - PRG 3/880	2	145,2	0,120	0,880	0,095	290	341	**17**	%	21400	0,40120	0,010032	8
EN442 - Anlage	BIASI - PRG 3/880	3	145,2	0,180	0,880	0,095	436	485	**11**	%	21400	0,51820	0,015048	8
EN442 - Anlage	BIASI - PRG 3/880	4	145,2	0,240	0,880	0,095	581	629	**8**	%	21400	0,63520	0,020064	8
EN442 - Anlage	BIASI - PRG 3/880	5	145,2	0,300	0,880	0,095	726	773	**6**	%	21400	0,75220	0,025080	8
EN442 - Anlage	BIASI - PRG 3/880	6	145,2	0,360	0,880	0,095	871	917	**5**	%	21400	0,86920	0,030096	8
EN442 - Anlage	BIASI - PRG 3/880	10	145,2	0,600	0,880	0,095	1452	1493	**3**	%	21400	1,33720	0,050160	8
EN442 - Anlage	BIASI - PRG 5/566	1	151,62	0,060	0,566	0,165	152	206	**36**	%	21400	0,27450	0,005603	8
EN442 - Anlage	BIASI - PRG 5/566	2	151,62	0,120	0,566	0,165	303	354	**17**	%	21400	0,36222	0,011207	8
EN442 - Anlage	BIASI - PRG 5/566	3	151,62	0,180	0,566	0,165	455	501	**10**	%	21400	0,44994	0,016810	8
EN442 - Anlage	BIASI - PRG 5/566	4	151,62	0,240	0,566	0,165	606	648	**7**	%	21400	0,53766	0,022414	8
5...1191	Ferrioli - Exact	1	178	0,065	0,680	0,125	178	204	**15**	%	21400	0,27465	0,005525	8
5...1191	Ferrioli - Exact	7	178	0,455	0,680	0,125	1246	1111	**-11**	%	21400	0,90255	0,038675	8
5...1191	Ferrioli - Exact	8	178	0,520	0,680	0,125	1424	1262	**-11**	%	21400	1,00720	0,044200	8
5...1191	Ferrioli - Exact	9	178	0,585	0,680	0,125	1602	1413	**-12**	%	21400	1,11185	0,049725	8
5...1191	Ferrioli - Exact	10	178	0,650	0,680	0,125	1780	1564	**-12**	%	21400	1,21650	0,055250	8
5...1191	Ferrioli - Exact	11	178	0,715	0,680	0,125	1958	1715	**-12**	%	21400	1,32115	0,060775	8
5...1191	Ferrioli - Exact	12	178	0,780	0,680	0,125	2136	1867	**-13**	%	21400	1,42580	0,066300	8
5...1191	Ferrioli - Exact	13	178	0,845	0,680	0,125	2314	2018	**-13**	%	21400	1,53045	0,071825	8
5...1191	Ferrioli - Exact	14	178	0,910	0,680	0,125	2492	2169	**-13**	%	21400	1,63510	0,077350	8
5...1191	Ferrioli - Exact	15	178	0,975	0,680	0,125	2670	2320	**-13**	%	21400	1,73975	0,082875	8
5...1191	Ferrioli - Exact	16	178	1,040	0,680	0,125	2848	2471	**-13**	%	21400	1,84440	0,088400	8
5...1191	Ferrioli - Exact	17	178	1,105	0,680	0,125	3026	2622	**-13**	%	21400	1,94905	0,093925	8
5...1191	Ferrioli - Exact	17	178	1,105	0,680	0,125	3026	2622	**-13**	%	21400	1,94905	0,093925	8
5...1191	Ferrioli - Exact	18	178	1,170	0,680	0,125	3204	2773	**-13**	%	21400	2,05370	0,099450	8
5...1191	Ferrioli - Exact	18	178	1,170	0,680	0,125	3204	2773	**-13**	%	21400	2,05370	0,099450	8
5...1191	Ferrioli - Exact	19	178	1,235	0,680	0,125	3382	2924	**-14**	%	21400	2,15835	0,104975	8
5...1191	Ferrioli - Exact	19	178	1,235	0,680	0,125	3382	2924	**-14**	%	21400	2,15835	0,104975	8
5...1191	Ferrioli - Exact	20	178	1,300	0,680	0,125	3560	3075	**-14**	%	21400	2,26300	0,110500	8
5...1191	Ferrioli - Exact	20	178	1,300	0,680	0,125	3560	3075	**-14**	%	21400	2,26300	0,110500	8
5...1191	Ferrioli - Exact	21	178	1,365	0,680	0,125	3738	3226	**-14**	%	21400	2,36765	0,116025	8
5...1191	Ferrioli - Exact	21	178	1,365	0,680	0,125	3738	3226	**-14**	%	21400	2,36765	0,116025	8
5...1191	Ferrioli - Exact	22	178	1,430	0,680	0,125	3916	3377	**-14**	%	21400	2,47230	0,121550	8
5...1191	Ferrioli - Exact	23	178	1,495	0,680	0,125	4094	3529	**-14**	%	21400	2,57695	0,127075	8
5...1191	Ferrioli - Exact	24	178	1,560	0,680	0,125	4272	3680	**-14**	%	21400	2,68160	0,132600	8
EN442 - Anlage	BIASI - PRG 5/690	1	180,84	0,060	0,690	0,165	181	250	**38**	%	21400	0,33030	0,006831	8
EN442 - Anlage	BIASI - PRG 5/690	2	180,84	0,120	0,690	0,165	362	428	**18**	%	21400	0,43290	0,013662	8
EN442 - Anlage	BIASI - PRG 5/690	3	180,84	0,180	0,690	0,165	543	607	**12**	%	21400	0,53550	0,020493	8
EN442 - Anlage	BIASI - PRG 5/690	4	180,84	0,240	0,690	0,165	723	785	**9**	%	21400	0,63810	0,027324	8
EN442 - Anlage	BIASI - PRG 5/690	5	180,84	0,300	0,690	0,165	904	963	**7**	%	21400	0,74070	0,034155	8
EN442 - Anlage	BIASI - PRG 5/690	6	180,84	0,360	0,690	0,165	1085	1142	**5**	%	21400	0,84330	0,040986	8
EN442 - Anlage	BIASI - PRG 4/880	1	185,06	0,060	0,880	0,130	185	257	**39**	%	21400	0,35000	0,006864	8
EN442 - Anlage	BIASI - PRG 4/880	2	185,06	0,120	0,880	0,130	370	442	**19**	%	21400	0,47120	0,013728	8
EN442 - Anlage	BIASI - PRG 4/880	3	185,06	0,180	0,880	0,130	555	627	**13**	%	21400	0,59240	0,020592	8
EN442 - Anlage	BIASI - PRG 4/880	4	185,06	0,240	0,880	0,130	740	812	**10**	%	21400	0,71360	0,027456	8
EN442 - Anlage	BIASI - PRG 4/880	5	185,06	0,300	0,880	0,130	925	997	**8**	%	21400	0,83480	0,034320	8
EN442 - Anlage	BIASI - PRG 4/880	6	185,06	0,360	0,880	0,130	1110	1182	**6**	%	21400	0,95600	0,041184	8
EN442 - Anlage	BIASI - PRG 4/880	7	185,06	0,420	0,880	0,130	1295	1366	**5**	%	21400	1,07720	0,048048	8
EN442 - Anlage	BIASI - PRG 4/880	8	185,06	0,480	0,880	0,130	1480	1551	**5**	%	21400	1,19840	0,054912	8
EN442 - Anlage	BIASI - PRG 4/880	12	185,06	0,720	0,880	0,130	2221	2291	**3**	%	21400	1,68320	0,082368	8
5...1190	Ferrioli - Exact	1	216	0,065	0,880	0,125	216	263	**22**	%	21400	0,35065	0,007150	8
5...1190	Ferrioli - Exact	7	216	0,455	0,880	0,125	1512	1427	**-6**	%	21400	1,13455	0,050050	8
5...1190	Ferrioli - Exact	8	216	0,520	0,880	0,125	1728	1621	**-6**	%	21400	1,26520	0,057200	8
5...1190	Ferrioli - Exact	9	216	0,585	0,880	0,125	1944	1815	**-7**	%	21400	1,39585	0,064350	8
5...1190	Ferrioli - Exact	9	216	0,585	0,880	0,125	1944	1815	**-7**	%	21400	1,39585	0,064350	8
5...1190	Ferrioli - Exact	10	216	0,650	0,880	0,125	2160	2009	**-7**	%	21400	1,52650	0,071500	8
5...1190	Ferrioli - Exact	11	216	0,715	0,880	0,125	2376	2203	**-7**	%	21400	1,65715	0,078650	8
5...1190	Ferrioli - Exact	11	216	0,715	0,880	0,125	2376	2203	**-7**	%	21400	1,65715	0,078650	8
5...1190	Ferrioli - Exact	12	216	0,780	0,880	0,125	2592	2397	**-8**	%	21400	1,78780	0,085800	8
5...1190	Ferrioli - Exact	12	216	0,780	0,880	0,125	2592	2397	**-8**	%	21400	1,78780	0,085800	8
5...1190	Ferrioli - Exact	13	216	0,845	0,880	0,125	2808	2592	**-8**	%	21400	1,91845	0,092950	8
5...1190	Ferrioli - Exact	13	216	0,845	0,880	0,125	2808	2592	**-8**	%	21400	1,91845	0,092950	8
5...1190	Ferrioli - Exact	14	216	0,910	0,880	0,125	3024	2786	**-8**	%	21400	2,04910	0,100100	8
5...1190	Ferrioli - Exact	14	216	0,910	0,880	0,125	3024	2786	**-8**	%	21400	2,04910	0,100100	8
5...1190	Ferrioli - Exact	15	216	0,975	0,880	0,125	3240	2980	**-8**	%	21400	2,17975	0,107250	8
5...1190	Ferrioli - Exact	15	216	0,975	0,880	0,125	3240	2980	**-8**	%	21400	2,17975	0,107250	8
5...1190	Ferrioli - Exact	16	216	1,040	0,880	0,125	3456	3174	**-8**	%	21400	2,31040	0,114400	8
5...1190	Ferrioli - Exact	17	216	1,105	0,880	0,125	3672	3368	**-8**	%	21400	2,44105	0,121550	8
5...1190	Ferrioli - Exact	18	216	1,170	0,880	0,125	3888	3562	**-8**	%	21400	2,57170	0,128700	8
5...1190	Ferrioli - Exact	19	216	1,235	0,880	0,125	4104	3756	**-8**	%	21400	2,70235	0,135850	8
5...1190	Ferrioli - Exact	20	216	1,300	0,880	0,125	4320	3950	**-9**	%	21400	2,83300	0,143000	8
EN442 - Anlage	BIASI - PRG 5/880	1	222,42	0,060	0,880	0,165	222	317	**43**	%	21400	0,41580	0,008712	8
EN442 - Anlage	BIASI - PRG 5/880	2	222,42	0,120	0,880	0,165	445	543	**22**	%	21400	0,54120	0,017424	8
EN442 - Anlage	BIASI - PRG 5/880	3	222,42	0,180	0,880	0,165	667	769	**15**	%	21400	0,66660	0,026136	8
EN442 - Anlage	BIASI - PRG 5/880	4	222,42	0,240	0,880	0,165	890	994	**12**	%	21400	0,79200	0,034848	8
EN442 - Anlage	BIASI - PRG 5/880	5	222,42	0,300	0,880	0,165	1112	1220	**10**	%	21400	0,91740	0,043560	8
EN442 - Anlage	BIASI - PRG 5/880	6	222,42	0,360	0,880	0,165	1335	1446	**8**	%	21400	1,04280	0,052272	8
EN442 - Anlage	BIASI - PRG 5/880	7	222,42	0,420	0,880	0,165	1557	1672	**7**	%	21400	1,16820	0,060984	8
EN442 - Anlage	BIASI - PRG 5/880	8	222,42	0,480	0,880	0,165	1779	1898	**7**	%	21400	1,29360	0,069696	8
EN442 - Anlage	BIASI - PRG 5/880	9	222,42	0,540	0,880	0,165	2002	2123	**6**	%	21400	1,41900	0,078408	8
EN442 - Anlage	BIASI - PRG 5/880	10	222,42	0,600	0,880	0,165	2224	2349	**6**	%	21400	1,54440	0,087120	8
EN442 - Anlage	BIASI - PRG 5/880	11	222,42	0,660	0,880	0,165	2447	2575	**5**	%	21400	1,66980	0,095832	8
EN442 - Anlage	BIASI - PRG 5/880	12	222,42	0,720	0,880	0,165	2669	2801	**5**	%	21400	1,79520	0,104544	8

3.9 Comparative values for radiators of type 9 according to UNI 10200

2	3	4	5	6	7	8	9	10	11	12	13	14	15
			KQ/elem				KQ	KQ		coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth		UNI 10200					
C..MID	Model	elem	90/70/2	(l)	(h)	(p	90/70/20	90/70/2		UNI 1020	(m²)	(m³)	type
5.....1216	Gruppo Ragaini (160)	1	257	0,160	0,570	0,097	257	350	36 %	28100	0,32402	0,008846	9
5.....1216	Gruppo Ragaini (160)	2	257	0,320	0,570	0,097	513	666	30 %	28100	0,53746	0,017693	9
5.....1216	Gruppo Ragaini (160)	3	257	0,480	0,570	0,097	770	982	27 %	28100	0,75090	0,026539	9
5.....1216	Gruppo Ragaini (160)	4	257	0,640	0,570	0,097	1027	1297	26 %	28100	0,96434	0,035386	9
5.....1216	Gruppo Ragaini (160)	5	257	0,800	0,570	0,097	1283	1613	26 %	28100	1,17778	0,044232	9
5.....1216	Gruppo Ragaini (160)	6	257	0,960	0,570	0,097	1540	1928	25 %	28100	1,39122	0,053078	9
5.....1216	Gruppo Ragaini (160)	7	257	1,120	0,570	0,097	1797	2244	25 %	28100	1,60466	0,061925	9
5.....1216	Gruppo Ragaini (160)	8	257	1,280	0,570	0,097	2054	2560	25 %	28100	1,81810	0,070771	9
5.....1216	Gruppo Ragaini (160)	9	257	1,440	0,570	0,097	2310	2875	24 %	28100	2,03154	0,079618	9
5.....1216	Gruppo Ragaini (160)	10	257	1,600	0,570	0,097	2567	3191	24 %	28100	2,24498	0,088464	9
5.....1216	Gruppo Ragaini (160)	11	257	1,760	0,570	0,097	2824	3506	24 %	28100	2,45842	0,097310	9
5.....1216	Gruppo Ragaini (160)	12	257	1,920	0,570	0,097	3080	3822	24 %	28100	2,67186	0,106157	9
5.....1216	Gruppo Ragaini (160)	13	257	2,080	0,570	0,097	3337	4138	24 %	28100	2,88530	0,115003	9
5.....1216	Gruppo Ragaini (160)	14	257	2,240	0,570	0,097	3594	4453	24 %	28100	3,09874	0,123850	9
5.....1216	Gruppo Ragaini (160)	15	257	2,400	0,570	0,097	3850	4769	24 %	28100	3,31218	0,132696	9
5.....1216	Gruppo Ragaini (160)	16	257	2,560	0,570	0,097	4107	5084	24 %	28100	3,52562	0,141542	9
5.....1216	Gruppo Ragaini (160)	17	257	2,720	0,570	0,097	4364	5400	24 %	28100	3,73906	0,150389	9
5.....1216	Gruppo Ragaini (160)	18	257	2,880	0,570	0,097	4620	5716	24 %	28100	3,95250	0,159235	9
5.....1216	Gruppo Ragaini (160)	19	257	3,040	0,570	0,097	4877	6031	24 %	28100	4,16594	0,168082	9
5.....1216	Gruppo Ragaini (160)	20	257	3,200	0,570	0,097	5134	6347	24 %	28100	4,37938	0,176928	9
5.....1216	Gruppo Ragaini (160)	21	257	3,360	0,570	0,097	5390	6662	24 %	28100	4,59282	0,185774	9
5.....1216	Gruppo Ragaini (160)	22	257	3,520	0,570	0,097	5647	6978	24 %	28100	4,80626	0,194621	9
5.....1216	Gruppo Ragaini (160)	23	257	3,680	0,570	0,097	5904	7294	24 %	28100	5,01970	0,203467	9
5.....1216	Gruppo Ragaini (160)	24	257	3,840	0,570	0,097	6161	7609	24 %	28100	5,23314	0,212314	9
5.....1216	Gruppo Ragaini (160)	25	257	4,000	0,570	0,097	6417	7925	23 %	28100	5,44658	0,221160	9
5.....1216	Gruppo Ragaini (160)	26	257	4,160	0,570	0,097	6674	8240	23 %	28100	5,66002	0,230006	9
5.....1216	Gruppo Ragaini (160)	27	257	4,320	0,570	0,097	6931	8556	23 %	28100	5,87346	0,238853	9
5.....1216	Gruppo Ragaini (160)	28	257	4,480	0,570	0,097	7187	8872	23 %	28100	6,08690	0,247699	9
5.....1216	Gruppo Ragaini (160)	29	257	4,640	0,570	0,097	7444	9187	23 %	28100	6,30034	0,256546	9
5.....1216	Gruppo Ragaini (160)	30	257	4,800	0,570	0,097	7701	9503	23 %	28100	6,51378	0,265392	9

3.10 Comparative values for radiators of type 10 according to UNI 10200

2	3	4	5	6	7	8	9	10	11	12	13	14	15
			KQ/elem				KQ	KQ		coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth		UNI 10200					
C..MID	Model	elem	90/70/2	(l)	(h)	(p	90/70/20	90/70/2		UNI 1020	(m²)	(m³)	type
5...500	GL - Global	1	195,8	0,080	0,690	0,095	196	211	8 %	24800	0,25670	0,005244	10
5...500	GL - Global	6	195,8	0,480	0,690	0,095	1175	1058	-10 %	24800	0,88470	0,031464	10
5...500	GL - Global	7	195,8	0,560	0,690	0,095	1371	1228	-10 %	24800	1,01030	0,036708	10
5...500	GL - Global	8	195,8	0,640	0,690	0,095	1566	1397	-11 %	24800	1,13590	0,041952	10
5...500	GL - Global	9	195,8	0,720	0,690	0,095	1762	1567	-11 %	24800	1,26150	0,047196	10
5...500	GL - Global	10	195,8	0,800	0,690	0,095	1958	1736	-11 %	24800	1,38710	0,052440	10
5...500	GL - Global	11	195,8	0,880	0,690	0,095	2154	1906	-12 %	24800	1,51270	0,057684	10
5...500	GL - Global	12	195,8	0,960	0,690	0,095	2350	2075	-12 %	24800	1,63830	0,062928	10
5...500	GL - Global	13	195,8	1,040	0,690	0,095	2545	2245	-12 %	24800	1,76390	0,068172	10
5...500	GL - Global	14	195,8	1,120	0,690	0,095	2741	2414	-12 %	24800	1,88950	0,073416	10
5...500	GL - Global	15	195,8	1,200	0,690	0,095	2937	2584	-12 %	24800	2,01510	0,078660	10
5...500	GL - Global	16	195,8	1,280	0,690	0,095	3133	2753	-12 %	24800	2,14070	0,083904	10
5...501	GL - Global	1	206,5	0,080	0,440	0,178	207	236	14 %	24800	0,25552	0,006266	10
5...501	GL - Global	6	206,5	0,480	0,440	0,178	1239	1168	-6 %	24800	0,74992	0,037594	10
5...501	GL - Global	7	206,5	0,560	0,440	0,178	1446	1354	-6 %	24800	0,84880	0,043859	10
5...501	GL - Global	8	206,5	0,640	0,440	0,178	1652	1541	-7 %	24800	0,94768	0,050125	10
5...501	GL - Global	9	206,5	0,720	0,440	0,178	1859	1727	-7 %	24800	1,04656	0,056390	10
5...501	GL - Global	10	206,5	0,800	0,440	0,178	2065	1914	-7 %	24800	1,14544	0,062656	10
5...501	GL - Global	11	206,5	0,880	0,440	0,178	2272	2100	-8 %	24800	1,24432	0,068922	10
5...501	GL - Global	12	206,5	0,960	0,440	0,178	2478	2286	-8 %	24800	1,34320	0,075187	10
5...501	GL - Global	13	206,5	1,040	0,440	0,178	2685	2473	-8 %	24800	1,44208	0,081453	10
5...501	GL - Global	14	206,5	1,120	0,440	0,178	2891	2659	-8 %	24800	1,54096	0,087718	10

3.11 Comparative values for radiators of type 11 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ			coefficient	surface	volume	
	Producer	num.		length	height	depth		UNI 10200			(k)	(S)	(V)	
C..MID	Model	elet	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
5.....833	Cimin - Roby (80)	1	109	0,080	0,254	0,092	109	72	-34	%	21400	0,10210	0,001869	11
5.....833	Cimin - Roby (80)	2	109	0,160	0,254	0,092	218	129	-41	%	21400	0,15746	0,003739	11
5.....833	Cimin - Roby (80)	3	109	0,240	0,254	0,092	327	187	-43	%	21400	0,21282	0,005608	11
5.....833	Cimin - Roby (80)	4	109	0,320	0,254	0,092	436	244	-44	%	21400	0,26818	0,007478	11
5.....833	Cimin - Roby (80)	5	109	0,400	0,254	0,092	545	302	-45	%	21400	0,32354	0,009347	11
5.....833	Cimin - Roby (80)	6	109	0,480	0,254	0,092	654	359	-45	%	21400	0,37890	0,011217	11
5.....833	Cimin - Roby (80)	7	109	0,560	0,254	0,092	763	416	-45	%	21400	0,43426	0,013086	11
5.....833	Cimin - Roby (80)	8	109	0,640	0,254	0,092	872	474	-46	%	21400	0,48962	0,014956	11
5.....833	Cimin - Roby (80)	9	109	0,720	0,254	0,092	981	531	-46	%	21400	0,54498	0,016825	11
5.....833	Cimin - Roby (80)	10	109	0,800	0,254	0,092	1090	589	-46	%	21400	0,60034	0,018694	11
5.....833	Cimin - Roby (80)	11	109	0,880	0,254	0,092	1199	646	-46	%	21400	0,65570	0,020564	11
5.....833	Cimin - Roby (80)	12	109	0,960	0,254	0,092	1308	703	-46	%	21400	0,71106	0,022433	11
5.....833	Cimin - Roby (80)	13	109	1,040	0,254	0,092	1417	761	-46	%	21400	0,76642	0,024303	11
5.....833	Cimin - Roby (80)	14	109	1,120	0,254	0,092	1526	818	-46	%	21400	0,82178	0,026172	11
5.....833	Cimin - Roby (80)	15	109	1,200	0,254	0,092	1635	876	-46	%	21400	0,87714	0,028042	11
5.....833	Cimin - Roby (80)	16	109	1,280	0,254	0,092	1744	933	-47	%	21400	0,93250	0,029911	11
5.....833	Cimin - Roby (80)	17	109	1,360	0,254	0,092	1853	990	-47	%	21400	0,98786	0,031780	11
5.....833	Cimin - Roby (80)	18	109	1,440	0,254	0,092	1962	1048	-47	%	21400	1,04322	0,033650	11
5.....833	Cimin - Roby (80)	19	109	1,520	0,254	0,092	2071	1105	-47	%	21400	1,09858	0,035519	11
5.....833	Cimin - Roby (80)	20	109	1,600	0,254	0,092	2180	1162	-47	%	21400	1,15394	0,037389	11
5.....833	Cimin - Roby (80)	21	109	1,680	0,254	0,092	2289	1220	-47	%	21400	1,20930	0,039258	11
5.....833	Cimin - Roby (80)	22	109	1,760	0,254	0,092	2398	1277	-47	%	21400	1,26466	0,041128	11
5.....833	Cimin - Roby (80)	23	109	1,840	0,254	0,092	2507	1335	-47	%	21400	1,32002	0,042997	11
5.....833	Cimin - Roby (80)	24	109	1,920	0,254	0,092	2616	1392	-47	%	21400	1,37538	0,044867	11
5.....833	Cimin - Roby (80)	25	109	2,000	0,254	0,092	2725	1449	-47	%	21400	1,43074	0,046736	11
5.....593	rag-al (60)	5	119,8	0,300	0,412	0,135	599	495	-17	%	21400	0,43944	0,016686	11
5.....593	rag-al (60)	6	119,8	0,360	0,412	0,135	719	587	-18	%	21400	0,50508	0,020023	11
5.....593	rag-al (60)	7	119,8	0,420	0,412	0,135	839	679	-19	%	21400	0,57072	0,023360	11
5.....593	rag-al (60)	8	119,8	0,480	0,412	0,135	958	771	-20	%	21400	0,63636	0,026698	11
5.....593	rag-al (60)	9	119,8	0,540	0,412	0,135	1078	863	-20	%	21400	0,70200	0,030035	11
5.....593	rag-al (60)	10	119,8	0,600	0,412	0,135	1198	955	-20	%	21400	0,76764	0,033372	11
5.....593	rag-al (60)	11	119,8	0,660	0,412	0,135	1318	1047	-21	%	21400	0,83328	0,036709	11
5.....593	rag-al (60)	12	119,8	0,720	0,412	0,135	1438	1139	-21	%	21400	0,89892	0,040046	11
5.....593	rag-al (60)	13	119,8	0,780	0,412	0,135	1557	1231	-21	%	21400	0,96456	0,043384	11
5.....593	rag-al (60)	14	119,8	0,840	0,412	0,135	1677	1323	-21	%	21400	1,03020	0,046721	11
5.....593	rag-al (60)	15	119,8	0,900	0,412	0,135	1797	1415	-21	%	21400	1,09584	0,050058	11
5.....593	rag-al (60)	16	119,8	0,960	0,412	0,135	1917	1507	-21	%	21400	1,16148	0,053395	11
5.....593	rag-al (60)	17	119,8	1,020	0,412	0,135	2037	1599	-21	%	21400	1,22712	0,056732	11
5.....593	rag-al (60)	18	119,8	1,080	0,412	0,135	2156	1691	-22	%	21400	1,29276	0,060070	11
5.....593	rag-al (60)	19	119,8	1,140	0,412	0,135	2276	1783	-22	%	21400	1,35840	0,063407	11
5.....593	rag-al (60)	20	119,8	1,200	0,412	0,135	2396	1875	-22	%	21400	1,42404	0,066744	11
5.....593	rag-al (60)	21	119,8	1,260	0,412	0,135	2516	1967	-22	%	21400	1,48968	0,070081	11
5.....593	rag-al (60)	22	119,8	1,320	0,412	0,135	2636	2060	-22	%	21400	1,55532	0,073418	11
5.....593	rag-al (60)	23	119,8	1,380	0,412	0,135	2755	2152	-22	%	21400	1,62096	0,076756	11
5.....593	rag-al (60)	24	119,8	1,440	0,412	0,135	2875	2244	-22	%	21400	1,68660	0,080093	11
5.....593	rag-al (60)	25	119,8	1,500	0,412	0,135	2995	2336	-22	%	21400	1,75224	0,083430	11
5.....593	rag-al (60)	26	119,8	1,560	0,412	0,135	3115	2428	-22	%	21400	1,81788	0,086767	11
5.....593	rag-al (60)	27	119,8	1,620	0,412	0,135	3235	2520	-22	%	21400	1,88352	0,090104	11
5.....593	rag-al (60)	28	119,8	1,680	0,412	0,135	3354	2612	-22	%	21400	1,94916	0,093442	11
5.....593	rag-al (60)	29	119,8	1,740	0,412	0,135	3474	2704	-22	%	21400	2,01480	0,096779	11
5.....593	rag-al (60)	30	119,8	1,800	0,412	0,135	3594	2796	-22	%	21400	2,08044	0,100116	11
5.....159	Manaut - Iber(80)	7	171	0,560	0,575	0,097	1197	940	-21	%	21400	0,86419	0,031234	11
5.....159	Manaut - Iber(80)	8	171	0,640	0,575	0,097	1368	1069	-22	%	21400	0,97171	0,035696	11
5.....159	Manaut - Iber(80)	9	171	0,720	0,575	0,097	1539	1198	-22	%	21400	1,07923	0,040158	11
5.....159	Manaut - Iber(80)	10	171	0,800	0,575	0,097	1710	1328	-22	%	21400	1,18675	0,044620	11
5.....159	Manaut - Iber(80)	11	171	0,880	0,575	0,097	1881	1457	-23	%	21400	1,29427	0,049082	11
5.....159	Manaut - Iber(80)	12	171	0,960	0,575	0,097	2052	1586	-23	%	21400	1,40179	0,053544	11
5.....159	Manaut - Iber(80)	13	171	1,040	0,575	0,097	2223	1715	-23	%	21400	1,50931	0,058006	11
5.....159	Manaut - Iber(80)	15	171	1,200	0,575	0,097	2565	1974	-23	%	21400	1,72435	0,066930	11
5.....159	Manaut - Iber(80)	16	171	1,280	0,575	0,097	2736	2103	-23	%	21400	1,83187	0,071392	11
5.....159	Manaut - Iber(80)	18	171	1,440	0,575	0,097	3078	2361	-23	%	21400	2,04691	0,080316	11
5.....159	Manaut - Iber(80)	19	171	1,520	0,575	0,097	3249	2491	-23	%	21400	2,15443	0,084778	11
5.....159	Manaut - Iber(80)	20	171	1,600	0,575	0,097	3420	2620	-23	%	21400	2,26195	0,089240	11
5.....159	Manaut - Iber(80)	21	171	1,680	0,575	0,097	3591	2749	-23	%	21400	2,36947	0,093702	11
5.....159	Manaut - Iber(80)	22	171	1,760	0,575	0,097	3762	2878	-23	%	21400	2,47699	0,098164	11
5.....159	Manaut - Iber(80)	23	171	1,840	0,575	0,097	3933	3008	-24	%	21400	2,58451	0,102626	11
5.....159	Manaut - Iber(80)	24	171	1,920	0,575	0,097	4104	3137	-24	%	21400	2,69203	0,107088	11
5.....159	Manaut - Iber(80)	25	171	2,000	0,575	0,097	4275	3266	-24	%	21400	2,79955	0,111550	11
5.....159	Manaut - Iber(80)	26	171	2,080	0,575	0,097	4446	3395	-24	%	21400	2,90707	0,116012	11
5.....159	Manaut - Iber(80)	27	171	2,160	0,575	0,097	4617	3525	-24	%	21400	3,01459	0,120474	11
5.....159	Manaut - Iber(80)	29	171	2,320	0,575	0,097	4959	3783	-24	%	21400	3,22963	0,129398	11
5.....159	Manaut - Iber(80)	30	171	2,400	0,575	0,097	5130	3912	-24	%	21400	3,33715	0,133860	11
5.....159	Manaut - Iber(80)	31	171	2,480	0,575	0,097	5301	4042	-24	%	21400	3,44467	0,138322	11
5.....159	Manaut - Iber(80)	32	171	2,560	0,575	0,097	5472	4171	-24	%	21400	3,55219	0,142784	11
5.....159	Manaut - Iber(80)	40	171	3,200	0,575	0,097	6840	5205	-24	%	21400	4,41235	0,178480	11
5.....27	Alutherm(120)	1	206	0,120	0,630	0,060	206	173	-16	%	21400	0,24120	0,004536	11
5.....27	Alutherm(120)	2	206	0,240	0,630	0,060	412	322	-22	%	21400	0,40680	0,009072	11
5.....27	Alutherm(120)	3	206	0,360	0,630	0,060	618	471	-24	%	21400	0,57240	0,013608	11
5.....27	Alutherm(120)	4	206	0,480	0,630	0,060	824	620	-25	%	21400	0,73800	0,018144	11
5.....27	Alutherm(120)	5	206	0,600	0,630	0,060	1030	769	-25	%	21400	0,90360	0,022680	11
5.....27	Alutherm(120)	6	206	0,720	0,630	0,060	1236	918	-26	%	21400	1,06920	0,027216	11
5.....27	Alutherm(120)	7	206	0,840	0,630	0,060	1442	1067	-26	%	21400	1,23480	0,031752	11
5.....27	Alutherm(120)	8	206	0,960	0,630	0,060	1648	1216	-26	%	21400	1,40040	0,036288	11
5.....27	Alutherm(120)	9	206	1,080	0,630	0,060	1854	1365	-26	%	21400	1,56600	0,040824	11
5.....27	Alutherm(120)	10	206	1,200	0,630	0,060	2060	1514	-26	%	21400	1,73160	0,045360	11
5.....27	Alutherm(120)	11	206	1,320	0,630	0,060	2266	1663	-27	%	21400	1,89720	0,049896	11
5.....27	Alutherm(120)	12	206	1,440	0,630	0,060	2472	1813	-27	%	21400	2,06280	0,054432	11
5.....27	Alutherm(120)	13	206	1,560	0,630	0,060	2678	1962	-27	%	21400	2,22840	0,058968	11
5.....27	Alutherm(120)	14	206	1,680	0,630	0,060	2884	2111	-27	%	21400	2,39400	0,063504	11
5.....27	Alutherm(120)	15	206	1,800	0,630	0,060	3090	2260	-27	%	21400	2,55960	0,068040	11
5.....27	Alutherm(120)	16	206	1,920	0,630	0,060	3296	2409	-27	%	21400	2,72520	0,072576	11
5.....27	Alutherm(120)	17	206	2,040	0,630	0,060	3502	2558	-27	%	21400	2,89080	0,077112	11
5.....27	Alutherm(120)	18	206	2,160	0,630	0,060	3708	2707	-27	%	21400	3,05640	0,081648	11
5.....27	Alutherm(120)	19	206	2,280	0,630	0,060	3914	2856	-27	%	21400	3,22200	0,086184	11
5.....27	Alutherm(120)	20	206	2,400	0,630	0,060	4120	3005	-27	%	21400	3,38760	0,090720	11
5.....27	Alutherm(120)	21	206	2,520	0,630	0,060	4326	3154	-27	%	21400	3,55320	0,095256	11
5.....27	Alutherm(120)	22	206	2,640	0,630	0,060	4532	3303	-27	%	21400	3,71880	0,099792	11
5.....27	Alutherm(120)	23	206	2,760	0,630	0,060	4738	3452	-27	%	21400	3,88440	0,104328	11
5.....27	Alutherm(120)	24	206	2,880	0,630	0,060	4944	3601	-27	%	21400	4,05000	0,108864	11
5.....27	Alutherm(120)	25	206	3,000	0,630	0,060	5150	3750	-27	%	21400	4,21560	0,113400	11

5.....833	Cimin - Roby (80)	1	241	0,080	0,654	0,092	241	178	**-26**	**%**	21400	0,23970	0,004813	11
5.....833	Cimin - Roby (80)	2	241	0,160	0,654	0,092	482	319	**-34**	**%**	21400	0,35906	0,009627	11
5.....833	Cimin - Roby (80)	3	241	0,240	0,654	0,092	723	459	**-36**	**%**	21400	0,47842	0,014440	11
5.....833	Cimin - Roby (80)	4	241	0,320	0,654	0,092	964	600	**-38**	**%**	21400	0,59778	0,019254	11
5.....833	Cimin - Roby (80)	5	241	0,400	0,654	0,092	1205	740	**-39**	**%**	21400	0,71714	0,024067	11
5.....833	Cimin - Roby (80)	6	241	0,480	0,654	0,092	1446	881	**-39**	**%**	21400	0,83650	0,028881	11
5.....833	Cimin - Roby (80)	7	241	0,560	0,654	0,092	1687	1021	**-39**	**%**	21400	0,95586	0,033694	11
5.....833	Cimin - Roby (80)	8	241	0,640	0,654	0,092	1928	1162	**-40**	**%**	21400	1,07522	0,038508	11
5.....833	Cimin - Roby (80)	9	241	0,720	0,654	0,092	2169	1302	**-40**	**%**	21400	1,19458	0,043321	11
5.....833	Cimin - Roby (80)	10	241	0,800	0,654	0,092	2410	1443	**-40**	**%**	21400	1,31394	0,048134	11
5.....833	Cimin - Roby (80)	11	241	0,880	0,654	0,092	2651	1583	**-40**	**%**	21400	1,43330	0,052948	11
5.....833	Cimin - Roby (80)	12	241	0,960	0,654	0,092	2892	1724	**-40**	**%**	21400	1,55266	0,057761	11
5.....833	Cimin - Roby (80)	13	241	1,040	0,654	0,092	3133	1864	**-41**	**%**	21400	1,67202	0,062575	11
5.....833	Cimin - Roby (80)	14	241	1,120	0,654	0,092	3374	2005	**-41**	**%**	21400	1,79138	0,067388	11
5.....833	Cimin - Roby (80)	15	241	1,200	0,654	0,092	3615	2145	**-41**	**%**	21400	1,91074	0,072202	11
5.....833	Cimin - Roby (80)	16	241	1,280	0,654	0,092	3856	2286	**-41**	**%**	21400	2,03010	0,077015	11
5.....833	Cimin - Roby (80)	17	241	1,360	0,654	0,092	4097	2426	**-41**	**%**	21400	2,14946	0,081828	11
5.....833	Cimin - Roby (80)	18	241	1,440	0,654	0,092	4338	2567	**-41**	**%**	21400	2,26882	0,086642	11
5.....833	Cimin - Roby (80)	19	241	1,520	0,654	0,092	4579	2707	**-41**	**%**	21400	2,38818	0,091455	11
5.....833	Cimin - Roby (80)	20	241	1,600	0,654	0,092	4820	2848	**-41**	**%**	21400	2,50754	0,096269	11
5.....833	Cimin - Roby (80)	21	241	1,680	0,654	0,092	5061	2988	**-41**	**%**	21400	2,62690	0,101082	11
5.....833	Cimin - Roby (80)	22	241	1,760	0,654	0,092	5302	3128	**-41**	**%**	21400	2,74626	0,105896	11
5.....833	Cimin - Roby (80)	23	241	1,840	0,654	0,092	5543	3269	**-41**	**%**	21400	2,86562	0,110709	11
5.....833	Cimin - Roby (80)	24	241	1,920	0,654	0,092	5784	3409	**-41**	**%**	21400	2,98498	0,115523	11
5.....833	Cimin - Roby (80)	25	241	2,000	0,654	0,092	6025	3550	**-41**	**%**	21400	3,10434	0,120336	11
5.....833	Cimin - Roby (80)	26	241	2,080	0,654	0,092	6266	3690	**-41**	**%**	21400	3,22370	0,125149	11
5.....833	Cimin - Roby (80)	27	241	2,160	0,654	0,092	6507	3831	**-41**	**%**	21400	3,34306	0,129963	11
5.....833	Cimin - Roby (80)	28	241	2,240	0,654	0,092	6748	3971	**-41**	**%**	21400	3,46242	0,134776	11
5.....833	Cimin - Roby (80)	29	241	2,320	0,654	0,092	6989	4112	**-41**	**%**	21400	3,58178	0,139590	11
5.....833	Cimin - Roby (80)	30	241	2,400	0,654	0,092	7230	4252	**-41**	**%**	21400	3,70114	0,144403	11
5.....833	Cimin - Roby (80)	31	241	2,480	0,654	0,092	7471	4393	**-41**	**%**	21400	3,82050	0,149217	11
5.....833	Cimin - Roby (80)	32	241	2,560	0,654	0,092	7712	4533	**-41**	**%**	21400	3,93986	0,154030	11

3.12 Comparative values for radiators of type 12 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ			coefficient	surface	volume	
	Producer	num.		length	height	depth		UNI 10200			(k)	(S)	(V)	
C..MID	Model	elen	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
1...743	HM - Thema Vertikal Plan		GP	0,500	2,000	0,078	1701	2334	**37**	**%**	20300	2,39000	0,078000	12
1...743	HM - Thema Vertikal Plan		GP	0,600	2,000	0,078	2041	2781	**36**	**%**	20300	2,80560	0,093600	12
1...743	HM - Thema Vertikal Plan		GP	0,750	2,000	0,078	2551	3452	**35**	**%**	20300	3,42900	0,117000	12
1...743	HM - Thema Vertikal Plan		GP	0,900	2,000	0,078	3061	4123	**35**	**%**	20300	4,05240	0,140400	12
1...743	HM - Thema Vertikal Plan		GP	1,000	2,000	0,078	3402	4570	**34**	**%**	20300	4,46800	0,156000	12
1...468	DemirDöküm		P	0,400	0,600	0,012	298	217	**-27**	**%**	20300	0,50400	0,002880	12
1...43	DiaNorm - Dia Plus		P	0,400	0,600	0,015	342	233	**-32**	**%**	20300	0,51000	0,003600	12
1...468	DemirDöküm		P	0,500	0,600	0,012	372	270	**-27**	**%**	20300	0,62640	0,003600	12
1...43	DiaNorm - Dia Plus		P	0,500	0,600	0,015	428	290	**-32**	**%**	20300	0,63300	0,004500	12
1...468	DemirDöküm		P	0,600	0,600	0,012	447	323	**-28**	**%**	20300	0,74880	0,004320	12
1...43	DiaNorm - Dia Plus		P	0,400	0,900	0,015	478	348	**-27**	**%**	20300	0,75900	0,005400	12
1...43	DiaNorm - Dia Plus		P	0,600	0,600	0,015	513	347	**-32**	**%**	20300	0,75600	0,005400	12
1...468	DemirDöküm		P	0,700	0,600	0,012	521	376	**-28**	**%**	20300	0,87120	0,005040	12
1...468	DemirDöküm		P	0,800	0,600	0,012	596	429	**-28**	**%**	20300	0,99360	0,005760	12
1...43	DiaNorm - Dia Plus		P	0,500	0,900	0,015	598	433	**-28**	**%**	20300	0,94200	0,006750	12
1.....205	Superia-Flachheizk		P	0,750	0,600	0,016	607,5	442	**-27**	**%**	20300	0,94320	0,007200	12
1...43	DiaNorm - Dia Plus		P	0,600	0,900	0,015	717	518	**-28**	**%**	20300	1,12500	0,008100	12
1.....205	Superia-Flachheizk		P	0,900	0,600	0,016	729,0	530	**-27**	**%**	20300	1,12800	0,008640	12
1...468	DemirDöküm		P	1,000	0,600	0,012	745	535	**-28**	**%**	20300	1,23840	0,007200	12
1...468	DemirDöküm		P	1,200	0,600	0,012	894	641	**-28**	**%**	20300	1,48320	0,008640	12
1...43	DiaNorm - Dia Plus		P	0,800	0,900	0,015	956	687	**-28**	**%**	20300	1,49100	0,010800	12
1.....205	Superia-Flachheizk		P	1,200	0,600	0,016	972,0	704	**-28**	**%**	20300	1,49760	0,011520	12
1...735	Chappee		P	0,400	2,000	0,015	1091	769	**-30**	**%**	20300	1,67200	0,012000	12
1.....205	Superia-Flachheizk		P	1,350	0,600	0,016	1093,5	791	**-28**	**%**	20300	1,68240	0,012960	12
1...735	Chappee		P	0,400	2,200	0,015	1207	845	**-30**	**%**	20300	1,83800	0,013200	12
1.....205	Superia-Flachheizk		P	1,500	0,600	0,016	1215,0	879	**-28**	**%**	20300	1,86720	0,014400	12
1.....205	Superia-Flachheizk		P	1,650	0,600	0,016	1336,5	966	**-28**	**%**	20300	2,05200	0,015840	12
1.....205	Superia-Flachheizk		P	1,800	0,600	0,016	1458,0	1053	**-28**	**%**	20300	2,23680	0,017280	12
1.....205	Superia-Flachheizk		P	1,950	0,600	0,016	1579,5	1140	**-28**	**%**	20300	2,42160	0,018720	12
1...735	Chappee		P	0,600	2,000	0,015	1637	1143	**-30**	**%**	20300	2,47800	0,018000	12
1...735	Chappee		P	0,600	2,200	0,015	1811	1257	**-31**	**%**	20300	2,72400	0,019800	12
1...735	Chappee		P	0,720	2,000	0,015	1964	1368	**-30**	**%**	20300	2,96160	0,021600	12
1...735	Chappee		P	0,720	2,200	0,015	2173	1505	**-31**	**%**	20300	3,25560	0,023760	12
1...735	Chappee		P	0,800	2,000	0,015	2183	1518	**-30**	**%**	20300	3,28400	0,024000	12
1...735	Chappee		P	0,800	2,200	0,015	2415	1669	**-31**	**%**	20300	3,61000	0,026400	12
1...94	Dura - Thermodern		PPC	0,600	0,600	0,109	858	1105	**29**	**%**	20300	0,98160	0,039240	12
1...94	Dura - Thermodern		PPC	0,750	0,600	0,109	1072	1371	**28**	**%**	20300	1,19430	0,049050	12
1...94	Dura - Thermodern		PPC	0,900	0,600	0,109	1287	1637	**27**	**%**	20300	1,40700	0,058860	12
1...94	Dura - Thermodern		PPC	1,050	0,600	0,109	1501	1903	**27**	**%**	20300	1,61970	0,068670	12
1...94	Dura - Thermodern		PPC	1,200	0,600	0,109	1715	2169	**26**	**%**	20300	1,83240	0,078480	12
1...94	Dura - Thermodern		PPC	1,350	0,600	0,109	1930	2434	**26**	**%**	20300	2,04510	0,088290	12
1...94	Dura - Thermodern		PPC	1,500	0,600	0,109	2144	2700	**26**	**%**	20300	2,25780	0,098100	12
1...94	Dura - Thermodern		PPC	1,650	0,600	0,109	2359	2966	**26**	**%**	20300	2,47050	0,107910	12

3.13 Comparative values for radiators of type 13 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elem	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
1...468	DemirDöküm		PKC	0,400	0,600	0,060	433	528	**22**	%	23600	0,60000	0,014400	13
1...468	DemirDöküm		PKC	0,500	0,600	0,060	541	655	**21**	%	23600	0,73200	0,018000	13
1...468	DemirDöküm		PKC	0,400	0,900	0,060	608	785	**29**	%	23600	0,87600	0,021600	13
1...468	DemirDöküm		PKC	0,600	0,600	0,060	649	781	**20**	%	23600	0,86400	0,021600	13
1...468	DemirDöküm		PKC	0,700	0,600	0,060	758	907	**20**	%	23600	0,99600	0,025200	13
1...468	DemirDöküm		PKC	0,500	0,900	0,060	760	973	**28**	%	23600	1,06800	0,027000	13
1...468	DemirDöküm		PKC	0,800	0,600	0,060	866	1034	**19**	%	23600	1,12800	0,028800	13
1.....205	Superia-Flachheizk		PKC	0,750	0,600	0,072	887,25	1108	**25**	%	23600	1,09440	0,032400	13
1...468	DemirDöküm		PKC	0,600	0,900	0,060	912	1160	**27**	%	23600	1,26000	0,032400	13
1...468	DemirDöküm		PKC	0,900	0,600	0,060	974	1160	**19**	%	23600	1,26000	0,032400	13
1...468	DemirDöküm		PKC	0,700	0,900	0,060	1064	1348	**27**	%	23600	1,45200	0,037800	13
1.....205	Superia-Flachheizk		PKC	0,900	0,600	0,072	1064,70	1325	**24**	%	23600	1,29600	0,038880	13
1...468	DemirDöküm		PKC	1,000	0,600	0,060	1083	1287	**19**	%	23600	1,39200	0,036000	13
1...468	DemirDöküm		PKC	0,800	0,900	0,060	1216	1536	**26**	%	23600	1,64400	0,043200	13
1...468	DemirDöküm		PKC	0,900	0,900	0,060	1368	1723	**26**	%	23600	1,83600	0,048600	13
1.....205	Superia-Flachheizk		PKC	1,200	0,600	0,072	1419,60	1757	**24**	%	23600	1,69920	0,051840	13
1...468	DemirDöküm		PKC	1,000	0,900	0,060	1520	1911	**26**	%	23600	2,02800	0,054000	13
1.....205	Superia-Flachheizk		PKC	1,350	0,600	0,072	1597,05	1973	**24**	%	23600	1,90080	0,058320	13
1.....205	Superia-Flachheizk		PKC	1,500	0,600	0,072	1774,50	2189	**23**	%	23600	2,10240	0,064800	13
1.....205	Superia-Flachheizk		PKC	1,650	0,600	0,072	1951,95	2406	**23**	%	23600	2,30400	0,071280	13
1.....205	Superia-Flachheizk		PKC	1,800	0,600	0,072	2129,40	2622	**23**	%	23600	2,50560	0,077760	13

3.14 Comparative values for radiators of type 14 according to UNI 10200

2	3	4	5	6	7	8	9	10	11		12	13	14	15
			KQ/elem				KQ	KQ UNI 10200			coefficient (k)	surface (S)	volume (V)	
	Producer	num.		length	height	depth								
C..MID	Model	elem	90/70/2	(l)	(h)	(p	90/70/20	90/70/2			UNI 1020	(m²)	(m³)	type
1.....270	Brötje TYp 22		PKKP	0,720	0,600	0,090	1455	1221	**-16**	%	22500	1,10160	0,038880	14
1.....270	Brötje TYp 22		PKKP	0,840	0,600	0,090	1698	1419	**-16**	%	22500	1,26720	0,045360	14
1.....270	Brötje TYp 22		PKKP	0,960	0,600	0,090	1940	1616	**-17**	%	22500	1,43280	0,051840	14
1.....270	Brötje TYp 22		PKKP	1,200	0,600	0,090	2426	2012	**-17**	%	22500	1,76400	0,064800	14
1.....270	Brötje TYp		PKKPKP	1,080	0,600	0,147	3084	2705	**-12**	%	22500	1,78992	0,095256	14
1...277	V&N		PKKPKPC	0,400	0,600	0,154	1403	1079	**-23**	%	22500	0,78800	0,036960	14
1...277	V&N		PKKPKPC	0,520	0,600	0,154	1824	1385	**-24**	%	22500	0,96896	0,048048	14
1...277	V&N		PKKPKPC	0,400	1,000	0,154	2000	1773	**-11**	%	22500	1,23120	0,061600	14
1...277	V&N		PKKPKPC	0,600	0,600	0,154	2105	1590	**-24**	%	22500	1,08960	0,055440	14
1...277	V&N		PKKPKPC	0,720	0,600	0,154	2526	1896	**-25**	%	22500	1,27056	0,066528	14
1...277	V&N		PKKPKPC	0,520	1,000	0,154	2601	2275	**-13**	%	22500	1,50816	0,080080	14
1...277	V&N		PKKPKPC	0,800	0,600	0,154	2806	2100	**-25**	%	22500	1,39120	0,073920	14
1...277	V&N		PKKPKPC	0,600	1,000	0,154	3001	2611	**-13**	%	22500	1,69280	0,092400	14
1...277	V&N		PKKPKPC	0,920	0,600	0,154	3227	2406	**-25**	%	22500	1,57216	0,085008	14
1...277	V&N		PKKPKPC	1,000	0,600	0,154	3508	2611	**-26**	%	22500	1,69280	0,092400	14
1...277	V&N		PKKPKPC	0,720	1,000	0,154	3601	3113	**-14**	%	22500	1,96976	0,110880	14
1...277	V&N		PKKPKPC	0,800	1,000	0,154	4001	3448	**-14**	%	22500	2,15440	0,123200	14
1...277	V&N		PKKPKPC	1,200	0,600	0,154	4210	3121	**-26**	%	22500	1,99440	0,110880	14
1...277	V&N		PKKPKPC	0,920	1,000	0,154	4601	3951	**-14**	%	22500	2,43136	0,141680	14
1...277	V&N		PKKPKPC	1,400	0,600	0,154	4911	3632	**-26**	%	22500	2,29600	0,129360	14
1...277	V&N		PKKPKPC	1,000	1,000	0,154	5001	4286	**-14**	%	22500	2,61600	0,154000	14
1...277	V&N		PKKPKPC	1,200	1,000	0,154	6001	5124	**-15**	%	22500	3,07760	0,184800	14
1...277	V&N		PKKPKPC	1,400	1,000	0,154	7001	5962	**-15**	%	22500	3,53920	0,215600	14
1.....641	Sanica - Flachheizk		PKPC	0,440	0,600	0,070	891	627	**-30**	%	22500	0,67360	0,018480	14
1.....577	ELBA - Flachheizk		PKPC	1,080	0,300	0,064	936	725	**-22**	%	22500	0,82464	0,020736	14
1.....641	Sanica - Flachheizk		PKPC	0,520	0,600	0,070	1053	737	**-30**	%	22500	0,78080	0,021840	14
1.....641	Sanica - Flachheizk		PKPC	0,560	0,600	0,070	1134	791	**-30**	%	22500	0,83440	0,023520	14
1.....641	Sanica - Flachheizk		PKPC	0,600	0,600	0,070	1215	846	**-30**	%	22500	0,88800	0,025200	14
1.....577	ELBA - Flachheizk		PKPC	0,720	0,600	0,064	1232	946	**-23**	%	22500	1,03296	0,027648	14
1.....641	Sanica - Flachheizk		PKPC	0,640	0,600	0,070	1296	900	**-31**	%	22500	0,94160	0,026880	14
1.....641	Sanica - Flachheizk		PKPC	0,680	0,600	0,070	1377	955	**-31**	%	22500	0,99520	0,028560	14
1.....577	ELBA - Flachheizk		PKPC	0,840	0,600	0,064	1438	1100	**-23**	%	22500	1,19232	0,032256	14
1.....641	Sanica - Flachheizk		PKPC	0,720	0,600	0,070	1458	1010	**-31**	%	22500	1,04880	0,030240	14
1.....641	Sanica - Flachheizk		PKPC	0,760	0,600	0,070	1539	1064	**-31**	%	22500	1,10240	0,031920	14
1.....577	ELBA - Flachheizk		PKPC	0,960	0,600	0,064	1643	1254	**-24**	%	22500	1,35168	0,036864	14
1.....577	ELBA - Flachheizk		PKPC	1,200	0,600	0,064	2054	1561	**-24**	%	22500	1,67040	0,046080	14
1.....577	ELBA - Flachheizk		PKPC	1,320	0,600	0,064	2259	1715	**-24**	%	22500	1,82976	0,050688	14
1.....577	ELBA - Flachheizk		PKPC	1,080	0,800	0,064	2374	1862	**-22**	%	22500	1,96864	0,055296	14
1.....577	ELBA - Flachheizk		PKPC	1,440	0,600	0,064	2465	1869	**-24**	%	22500	1,98912	0,055296	14
1.....641	Sanica - Flachheizk		PKPC	2,600	0,600	0,070	5267	3577	**-32**	%	22500	3,56800	0,109200	14
1.....641	Sanica - Flachheizk		PKPC	2,640	0,600	0,070	5348	3632	**-32**	%	22500	3,62160	0,110880	14
1.....641	Sanica - Flachheizk		PKPC	2,680	0,600	0,070	5429	3687	**-32**	%	22500	3,67520	0,112560	14
1.....641	Sanica - Flachheizk		PKPC	2,720	0,600	0,070	5510	3741	**-32**	%	22500	3,72880	0,114240	14
1.....641	Sanica - Flachheizk		PKPC	2,760	0,600	0,070	5591	3796	**-32**	%	22500	3,78240	0,115920	14
1.....641	Sanica - Flachheizk		PKPC	2,800	0,600	0,070	5672	3851	**-32**	%	22500	3,83600	0,117600	14
1.....641	Sanica - Flachheizk		PKPC	2,840	0,600	0,070	5753	3905	**-32**	%	22500	3,88960	0,119280	14
1.....641	Sanica - Flachheizk		PKPC	2,880	0,600	0,070	5834	3960	**-32**	%	22500	3,94320	0,120960	14