



CONNECT AND PROTECT

Calculating heat dissipation in nVent HOFFMAN enclosures

White Paper


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HOFFMAN



Heat is the main reason for electronic component failure inside an enclosure. The service life of these components is halved, and the failure rate is doubled in the event of a 10 K temperature increase relative to the maximum permitted operating temperature.

Dealing with heat losses in enclosures depends on whether the enclosure is equipped with cooling accessories, like filter fans and cooling units, and whether the enclosure is supposed to be "air tight". For an enclosure that has cooling accessories installed, heat losses can be dissipated through active heat dissipation. If an enclosure has to remain closed without any cooling accessories, heat can only be dissipated through the enclosure walls.

The most important factor in what type of heat transfer is possible is the maximum ambient temperature at the enclosure location and the maximum temperature inside the enclosure. The maximum temperature increase relative to the environment inside the enclosure can be determined from the following equation:

$(T_i - T_u) = Q_v / (k \cdot A)$ Where:

- Q_v - Watts to dissipate
- T_u - Ambient temperature
- T_i - Permitted internal temperature
- k - Heat transfer coefficient
- A - Enclosure surface area

To choose the most suited climate control solution for an enclosure, it is necessary to calculate the heat loss, 'Qv', in the enclosure.

The following parameters also need to be calculated.

Q_v - Heat loss installed in the enclosure (W)

Q_s - Thermal radiation via enclosure surface $Q_s = k \cdot A \cdot \Delta T$

Q_k - Required useful cooling output (W)

ΔT - Temperature difference between inside and outside temperature (K)

$$\Delta T = (T_i - T_u)$$

Q_e - Required cooling output (W)

$$Q_e = Q_v - Q_s$$

V - Required volumetric flow of fan and filter unit (m³/h)

$$\text{Approximate calculation } V = (3.1 \cdot Q_v) / \Delta T$$

The maximum Internal enclosure temperature is determined by the electrical components used in the enclosure. As far as the recommended internal enclosure temperature is concerned, an average value of +35°C has become the norm.

In addition, the enclosure surface area must also be determined according to the installation type.

Conclusions:

The tables below show the amount of heat that is dissipated (W) through the enclosure surface, when the ΔT is 20K. The temperature difference between the ambient temperature and the maximum permitted internal temperature is then 20K:

T_i (internal temperature) = 45°C

T_u (Ambient temperature) = 25°C

$\Delta T = (T_i - T_u)$

$\Delta T = 45 - 25$

$\Delta T = 20K$

Example

Free standing enclosure, MCS18044R5

T_i (internal temperature) = 50°C,

T_u (Ambient temperature) = 40°C.

$\Delta T = (T_i - T_u)$

$\Delta T = 50 - 40$

$\Delta T = 10K$

Enclosure Heat dissipation value according to the table below (when ΔT is 20K):

310W

$310 / 20K = 15,5W$

$15,5 \times 10K = 155 W$

If the $\Delta T = 10K$, the natural heat dissipation of a free standing MCS18044R5 is 155W

All data is calculated by using the formulas presented in this paper.

If you find that the natural heat dissipation presented in these lists is not enough for the enclosure application at hand, active cooling accessories may have to be installed in the enclosure. Such accessories could be filter fans, heat exchangers, or Vortex coolers. Take the relevant information you have on your application and go to nVent HOFFMAN's website and the thermal software there to calculate cooling, heating, and control accessory requirements.

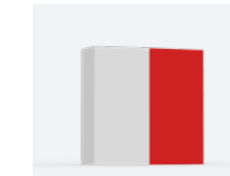
Enclosure installation type according to IEC 60 890



Single enclosure, free standing on all sides
 $A = 1.8 \times H \times (W+D) + 1.4 \times W \times D$



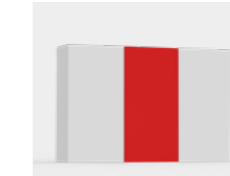
Single enclosure, for wall mounting
 $A = 1.4 \times W \times (H+D) + 1.8 \times H \times D$



First or last enclosure in a suite, free-standing
 $A = 1.4 \times D \times (W+H) + 1.8 \times W \times H$



First or last enclosure in a suite, for wall mounting
 $A = 1.4 \times H \times (W+D) + 1.4 \times W \times D$



Enclosure within a suite, free standing
 $A = 1.8 \times W \times H + 1.4 \times W \times D + H \times D$



Enclosure within a suite, for wall mounting
 $A = 1.4 \times W \times (H+D) + H \times D$



Enclosure within a suite, for wall mounting, covered roof surfaces
 $A = 1.4 \times W \times H + 0,7 \times W \times D + H \times D$

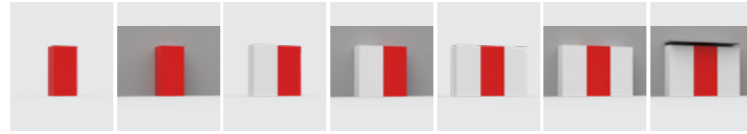
The following tables demonstrate the amount of heat that is dissipated through the enclosure surface.

All data is calculated using formulas mentioned in this paper.

If you need further assistance to determine your cooling, heating, and control accessory needs, please go to the nVent HOFFMAN website and use the Thermal software to help you with your climate calculation.

Floor Standing Enclosures
Steel Range | Mild Steel | Combinable, Single Door | MCS

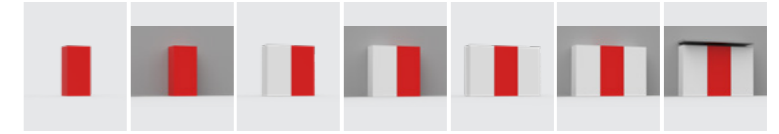
W (ΔT =20 K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MCS18044R5	1800	400	400	310	278	278	246	246	215	202
MCS18045R5	1800	400	500	352	320	312	280	272	241	225
MCS18046R5	1800	400	600	393	362	346	314	298	267	248
MCS18055R5	1800	500	500	395	355	355	316	316	276	257
MCS18064R5	1800	600	400	393	346	362	314	330	282	264
MCS18065R5	1800	600	500	438	391	399	351	359	312	288
MCS18066R5	1800	600	600	483	436	436	388	388	341	313
MCS18084R5	1800	800	400	477	414	445	382	414	350	326
MCS18085R5	1800	800	500	525	462	485	422	446	382	352
MCS18086R5	1800	800	600	573	510	525	462	478	414	378
MCS18104R5	1800	1000	400	561	481	529	450	497	418	387
MCS18105R5	1800	1000	500	612	532	572	493	532	453	415
MCS18106R5	1800	1000	600	663	583	615	536	568	488	442
MCS20044R5	2000	400	400	341	306	306	271	271	236	224
MCS20045R5	2000	400	500	387	352	343	308	299	264	249
MCS20046R5	2000	400	600	433	398	380	345	327	292	274
MCS20048R5	2000	400	800	524	489	454	419	384	348	324
MCS20055R5	2000	500	500	435	391	391	347	347	303	283
MCS20064R5	2000	600	400	433	380	398	345	363	310	291
MCS20065R5	2000	600	500	482	429	438	385	394	341	318
MCS20066R5	2000	600	600	531	478	478	425	425	372	345
MCS20068R5	2000	600	800	628	576	558	505	488	435	398
MCS20084R5	2000	800	400	524	454	489	419	454	384	359
MCS20085R5	2000	800	500	576	506	532	462	488	418	387
MCS20086R5	2000	800	600	628	558	576	505	523	452	415
MCS20088R5	2000	800	800	732	662	662	591	591	521	472
MCS20104R5	2000	1000	400	616	528	581	493	546	458	427
MCS20105R5	2000	1000	500	671	583	627	539	583	495	457
MCS20106R5	2000	1000	600	726	638	673	585	620	532	486
MCS20108R5	2000	1000	800	836	748	766	678	695	607	546
MCS22066R5	2200	600	600	578	520	520	462	462	404	376
MCS22068R5	2200	600	800	684	626	606	548	529	471	434
MCS22086R5	2200	800	600	684	606	626	548	568	490	453
MCS22088R5	2200	800	800	796	718	718	641	641	563	514

Floor Standing Enclosures
Steel Range | Mild Steel | Combinable, Double Door | MCD

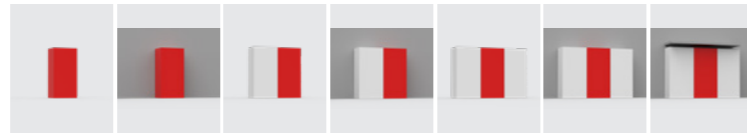
W (ΔT =20 K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MCD18085R5	1800	800	500	525	462	485	422	446	382	352
MCD18104R5	1800	1000	400	561	481	529	450	497	418	387
MCD18105R5	1800	1000	500	612	532	572	493	532	453	415
MCD18124R5	1800	1200	400	644	549	612	517	581	486	449
MCD18125R5	1800	1200	500	698	603	659	564	619	524	478
MCD18126R5	1800	1200	600	752	657	705	610	657	562	507
MCD18164R5	1800	1600	400	811	685	780	653	748	621	572
MCD20085R5	2000	800	500	576	506	532	462	488	418	387
MCD20104R5	2000	1000	400	616	528	581	493	546	458	427
MCD20105R5	2000	1000	500	671	583	627	539	583	495	457
MCD20106R5	2000	1000	600	726	638	673	585	620	532	486
MCD20108R5	2000	1000	800	836	748	766	678	695	607	546
MCD20124R5	2000	1200	400	708	602	672	567	637	532	495
MCD20125R5	2000	1200	500	766	660	722	616	678	572	526
MCD20126R5	2000	1200	600	824	718	771	665	718	612	557
MCD20128R5	2000	1200	800	940	834	869	764	799	693	620
MCD20164R5	2000	1600	400	891	750	855	715	820	679	630
MCD20165R5	2000	1600	500	955	814	911	770	867	726	664
MCD20166R5	2000	1600	600	1019	878	966	825	913	773	699
MCD22106R5	2200	1000	600	789	693	731	634	673	576	530
MCD22126R5	2200	1200	600	895	779	837	721	779	663	607

Floor Standing Enclosures
Steel Range | Mild Steel | Compact, Single Door | MKS

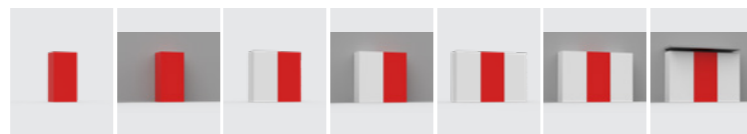
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MKS12064R5	1200	600	400	275	243	253	222	232	201	182
MKS12084R5	1200	800	400	334	292	313	271	292	250	225
MKS14063R5	1400	600	300	277	240	259	222	240	203	189
MKS14064R5	1400	600	400	314	277	290	253	265	228	209
MKS14083R5	1400	800	300	342	293	323	274	305	256	237
MKS14084R5	1400	800	400	382	333	357	308	333	283	259
MKS16063R5	1600	600	300	313	271	292	249	271	228	215
MKS16064R5	1600	600	400	354	312	326	283	297	255	237
MKS16083R5	1600	800	300	385	329	364	308	343	287	268
MKS16084R5	1600	800	400	429	373	401	345	373	317	292
MKS16085R5	1600	800	500	473	417	438	382	403	347	316
MKS16104R5	1600	1000	400	505	435	477	407	449	378	348
MKS16105R5	1600	1000	500	552	482	517	447	482	411	373
MKS18064R5	1800	600	400	393	346	362	314	330	282	264
MKS18084R5	1800	800	400	477	414	445	382	414	350	326
MKS18085R5	1800	800	500	525	462	485	422	446	382	352
MKS18104R5	1800	1000	400	561	481	529	450	497	418	387
MKS20064R5	2000	600	400	433	380	398	345	363	310	291
MKS20084R5	2000	800	400	524	454	489	419	454	384	359
MKS20085R5	2000	800	500	576	506	532	462	488	418	387
MKS20104R5	2000	1000	400	616	528	581	493	546	458	427
MKS20105R5	2000	1000	500	671	583	627	539	583	495	457

Floor Standing Enclosures
Steel Range | Mild Steel | Compact, Double Door | MKD

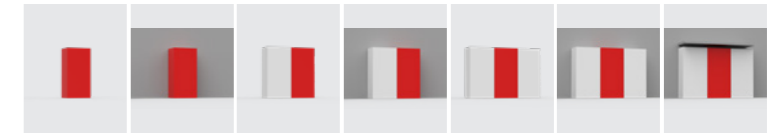
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MKD12124R5	1200	1200	400	454	391	433	370	412	348	312
MKD14103R5	1400	1000	300	407	345	388	326	370	308	285
MKD14104R5	1400	1000	400	450	388	425	363	400	339	308
MKD14123R5	1400	1200	300	471	397	453	379	434	360	333
MKD14124R5	1400	1200	400	517	444	493	419	468	394	357
MKD16124R5	1600	1200	400	581	496	553	468	524	440	403
MKD16125R5	1600	1200	500	631	546	596	511	561	476	430
MKD18124R5	1800	1200	400	644	549	612	517	581	486	449
MKD18125R5	1800	1200	500	698	603	659	564	619	524	478
MKD18164R5	1800	1600	400	811	685	780	653	748	621	572
MKD18165R5	1800	1600	500	872	745	832	705	792	666	604
MKD20124R5	2000	1200	400	708	602	672	567	637	532	495
MKD20125R5	2000	1200	500	766	660	722	616	678	572	526
MKD20164R5	2000	1600	400	891	750	855	715	820	679	630
MKD20165R5	2000	1600	500	955	814	911	770	867	726	664

Floor Standing Enclosures
Steel Range | Stainless Steel | Combinable, Single Door | MCSS

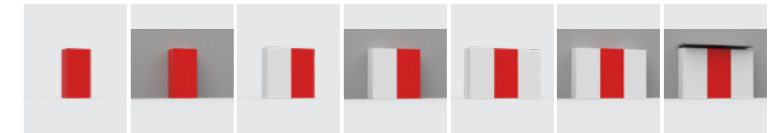
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MCSS18065	1800	600	500	359	320	326	287	294	255	236
MCSS18085	1800	800	500	429	378	397	345	365	313	288
MCSS18105	1800	1000	500	500	436	468	403	436	371	339
MCSS20066	2000	600	600	434	391	391	348	348	305	282
MCSS20086	2000	800	600	514	456	471	413	428	370	340
MCSS20106	2000	1000	600	594	522	551	479	508	436	398

Floor Standing Enclosures
Steel Range | Stainless Steel | Combinable, Double Door | MCDS

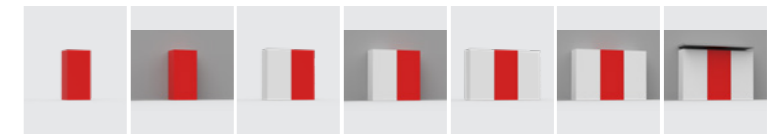
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MCDS18105	1800	1000	500	612	532	572	493	532	453	415
MCDS18125	1800	1200	500	698	603	659	564	619	524	478
MCDS20126	2000	1200	600	824	718	771	665	718	612	557

Floor Standing Enclosures
Steel Range | Stainless Steel | Compact, Single Door | EKSS

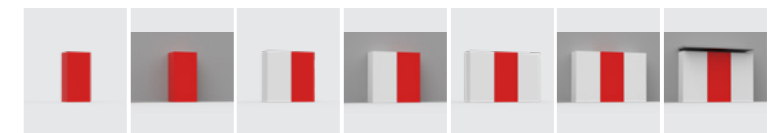
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
EKSS14084	1400	800	400	312	272	292	252	272	232	212
EKSS16064	1600	600	400	289	255	266	232	243	209	194
EKSS16084	1600	800	400	351	305	328	282	305	259	239
EKSS16104	1600	1000	400	413	356	390	333	367	310	284
EKSS18064	1800	600	400	322	283	296	257	270	231	216
EKSS18084	1800	800	400	390	338	364	312	338	287	266
EKSS18104	1800	1000	400	459	394	433	368	407	342	317
EKSS20084	2000	800	400	429	372	400	343	372	314	294
EKSS20104	2000	1000	400	504	432	475	403	446	374	349

Floor Standing Enclosures
Steel Range | Stainless Steel | Compact, Double Door | EKDS

W ($\Delta T = 20$ K)

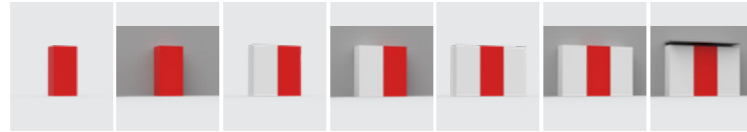


Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
EKDS12124	1200	1200	400	372	320	354	302	337	285	255
EKDS16124	1600	1200	400	475	406	452	383	429	360	330
EKDS18124	1800	1200	400	527	449	501	423	475	397	367
EKDS18164	1800	1600	400	664	560	638	534	612	508	468
EKDS20124	2000	1200	400	579	492	550	464	521	435	405
EKDS20164	2000	1600	400	729	613	700	585	671	556	516

Floor Standing Enclosures

Aluminium Range | Aluminium | Double Wall, Compact | EKOM

W ($\Delta T = 20$ K)

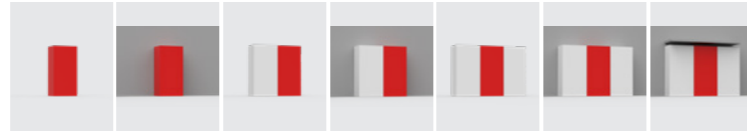


Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
EKOM12066	1200	600	600	743	674	674	605	605	536	475
EKOM12086	1200	800	600	887	795	818	726	749	657	576
EKOM12126	1200	1200	600	1175	1037	1106	968	1037	899	778
EKOM14066	1400	600	600	847	766	766	685	685	605	544
EKOM14086	1400	800	600	1008	900	927	820	847	739	659
EKOM14185	1400	1800	500	1693	1452	1626	1384	1559	1317	1166

Floor Standing Enclosures

Aluminium Range | Aluminium | Single Wall, Compact | EKOM-SW

W ($\Delta T = 20$ K)

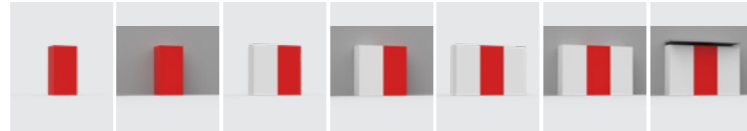


Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
EKOM12066-SW	1200	600	600	743	674	674	605	605	536	475
EKOM12086-SW	1200	800	600	887	795	818	726	749	657	576
EKOM12126-SW	1200	1200	600	1175	1037	1106	968	1037	899	778
EKOM14066-SW	1400	600	600	847	766	766	685	685	605	544
EKOM14086-SW	1400	800	600	1008	900	927	820	847	739	659
EKOM14185-SW	1400	1800	500	1693	1452	1626	1384	1559	1317	1166

Floor Standing Enclosures

Aluminium Range | Aluminium | Double Wall, Combinable | ECOM

W ($\Delta T = 20$ K)

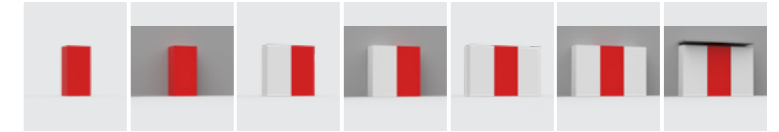


Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
ECOM16066	1600	600	600	950	858	858	766	766	674	613
ECOM16086	1600	800	600	1129	1006	1037	914	945	822	741
ECOM18066	1800	600	600	1054	950	950	847	847	743	683
ECOM18086	1800	800	600	1250	1112	1146	1008	1043	904	824
ECOM20066	2000	600	600	1158	1043	1043	927	927	812	752
ECOM20086	2000	800	600	1371	1217	1256	1102	1140	987	906

Wall Mounted Enclosures

Steel Range | Mild Steel | Single Door | MAS

W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MAS0202015R5	200	200	155	19	17	17	16	16	14	12
MAS0252015R5	250	200	155	22	20	21	18	19	17	14
MAS0252515R5	250	250	155	26	23	24	22	23	20	17
MAS0302515R5	300	250	155	30	27	28	25	26	23	20
MAS0302521R5	300	250	210	35	32	33	29	30	27	23
MAS0303015R5	300	300	155	34	30	32	28	30	26	23
MAS0303021R5	300	300	210	40	36	37	33	34	30	26
MAS0352515R5	350	250	155	34	30	32	28	29	25	22
MAS0403015R5	400	300	155	43	38	40	35	38	32	29
MAS0403021R5	400	300	210	50	45	46	41	43	37	33
MAS0404021R5	400	400	210	61	54	58	51	54	47	40
MAS0405021R5	400	500	210	72	64	69	60	65	56	48
MAS0406021R5	400	600	210	84	73	80	69	76	66	56
MAS0503021R5	500	300	210	60	54	56	49	51	44	40
MAS0504015R5	500	400	155	64	56	61	52	58	49	44
MAS0504021R5	500	400	210	73	65	69	60	64	55	49
MAS0504026R5	500	400	260	81	73	76	67	70	61	53
MAS0504030R5	500	400	300	88	79	81	72	75	66	57
MAS0505021R5	500	500	210	86	75	82	71	77	66	58
MAS0505030R5	500	500	300	102	91	96	85	89	78	67
MAS0604015R5	600	400	155	75	65	71	61	67	57	52
MAS0604021R5	600	400	210	85	75	80	69	74	64	57
MAS0604026R5	600	400	260	94	84	88	77	81	70	62
MAS0604030R5	600	400	300	102	91	94	83	86	75	66
MAS0605015R5	600	500	155	90	77	86	72	82	68	62
MAS0605021R5	600	500	210	101	87	95	82	89	76	68
MAS0605026R5	600	500	260	110	97	103	90	97	83	73
MAS0605030R5	600	500	300	118	105	110	97	102	89	78
MAS0606021R5	600	600	210	116	100	110	94	105	89	79
MAS0606030R5	600	600	300	135	119	127	111	119	103	89
MAS0606040R5	600	600	400	156	140	145	129	135	119	100
MAS0608030R5	600	800	300	168	147	160	139	152	131	112
MAS0705021R5	700	500	210	115	99	108	93	102	86	78
MAS0705026R5	700	500	260	125	110	117	102	109	94	84
MAS0804030R5	800	400	300	129	115	119	105	108	94	85
MAS0806021R5	800	600	210	148	127	140	119	133	112	102
MAS0806026R5	800	600	260	160	139	151	130	142	121	109
MAS0806030R5	800	600	300	170	149	160	139	149	128	114
MAS0806040R5	800	600	400	195	174	181	160	167	146	128
MAS0808021R5	800	800	210	186	158	178	150	171	143	130
MAS0808030R5	800	800	300	211	183	201	172	190	162	143
MAS0808040R5	800	800	400	239	211	225	197	211	183	158
MAS1006026R5	1000	600	260	194	168	183	156	171	145	133
MAS1006030R5	1000	600	300	206	180	193	166	180	153	139
MAS1008026R5	1000	800	260	242	207	230	195	219	184	168
MAS1008030R5	1000	800	300	255	220	242	206	228	193	175
MAS1008040R5	1000	800	400	287	252	269	234	252	216	192
MAS1206030R5	1200	600	300	242	210	226	194	210	178	164
MAS1208030R5	1200	800	300	298	256	282	240	267	224	206
MAS1208040R5	1200	800	400	334	292	313	271	292	250	225

Wall Mounted Enclosures
Steel Range | Mild Steel | Double Door | MAD

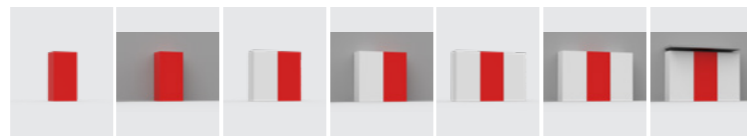
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MAD060830R5	600	800	300	168	147	160	139	152	131	112
MAD080123R5	800	1200	300	293	251	282	240	272	230	202
MAD1001030R5	1000	1000	300	304	260	290	246	277	233	210
MAD1201030R5	1200	1000	300	355	302	339	286	323	271	248
MAD1401030R5	1400	1000	300	407	345	388	326	370	308	285

Wall Mounted Enclosures
Steel Range | Mild Steel | Panel | MAP

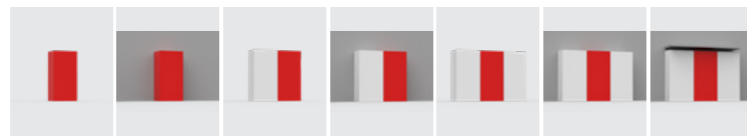
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
MAP0306030R5	300	600	300	81	73	77	69	73	65	51
MAP0308030R5	300	800	300	102	92	98	88	94	84	65
MAP0310030R5	300	1000	300	123	110	119	106	116	102	79
MAP0312030R5	300	1200	300	145	129	141	125	137	121	93

Wall Mounted Enclosures
Steel Range | Stainless Steel | Single Door | ASR

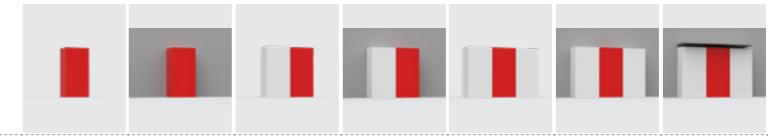
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
ASR0182415	180	240	150	16	14	15	13	14	12	10
ASR0242415	240	240	150	20	18	18	16	17	15	13
ASR0243615	240	360	150	27	24	25	22	24	21	18
ASR0302015	300	200	150	21	19	19	17	18	15	14
ASR0362415	360	240	150	27	24	25	22	23	20	18
ASR0403015	400	300	150	35	31	33	28	31	26	23
ASR0404021	400	400	210	50	44	47	41	44	38	33
ASR0406021	400	600	210	68	60	65	57	62	54	46
ASR0504021	500	400	210	60	53	56	49	52	45	40
ASR0505021	500	500	210	71	62	67	58	63	54	48
ASR0604021	600	400	210	70	61	65	57	61	52	47
ASR0606021	600	600	210	95	82	90	77	86	73	65
ASR0606030	600	600	300	110	97	104	91	97	84	73
ASR0608030	600	800	300	137	120	131	113	124	107	92
ASR0806021	800	600	210	121	104	115	98	109	91	84
ASR0806030	800	600	300	139	122	131	113	122	105	93
ASR0808030	800	800	300	173	150	164	141	156	132	117
ASR1008030	1000	800	300	208	180	198	169	187	158	143
ASR1208030	1200	800	300	244	210	231	197	218	184	168
ASR1208040	1200	800	400	274	239	256	222	239	204	184

Wall Mounted Enclosures
Steel Range | Stainless Steel | Double Door | ADR

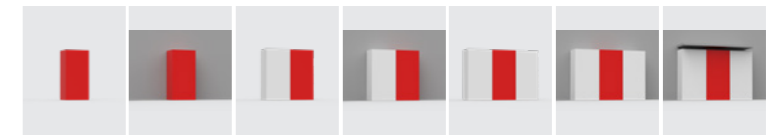
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
ASR1408040	1400	800	400	312	272	292	252	272	232	212
ADR1001030	1000	1000	300	248	212	238	202	227	191	172

Wall Mounted Enclosures
Steel Range | Stainless Steel | Integrated Rainhood | AFS

W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
ADR1001230	1000	1200	300	288	245	278	234	267	224	201
AFS03021	300	200	155	21	19	19	17	18	16	14
AFS04031	400	300	155	35	31	33	29	31	27	24
AFS04042	400	400	210	50	44	47	41	44	38	33
AFS04062	400	600	210	68	60	65	57	62	54	46
AFS05052	500	500	210	71	62	67	58	63	54	48
AFS06042	600	400	210	70	61	65	57	61	52	47
AFS06062	600	600	210	95	82	90	77	86	73	65
AFS06063	600	600	300	110	97	104	91	97	84	73
AFS06083	600	800	300	137	120	131	113	124	107	92
AFS08062	800	600	210	121	104	115	98	109	91	84
AFS08063	800	600	300	139	122	131	113	122	105	93
AFS08082	800	800	210	152	129	146	123	140	117	106
AFS08083	800	800	300	173	150	164	141	156	132	117
AFS10083	1000	800	300	208	180	198	169	187	158	143
AFS12063	1200	600	300	198	172	185	159	172	146	134
AFS12083	1200	800	300	244	210	231	197	218	184	168
AFS12084	1200	800	400	274	239	256	222	239	204	184

Wall Mounted Enclosures
Polyester Range | Compact | Plain Door | UCP

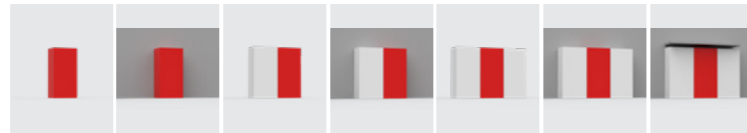
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
AFS14084	1400	800	400	312	272	292	252	272	232	212
UCP1080	1035	835	300	173	148	164	140	155	131	119
UCP320	315	215	170	19	17	17	15	16	14	12
UCP430	415	315	170	31	27	29	25	27	23	20
UCP540	515	415	230	51	45	48	42	45	39	34
UCP640	615	415	230	59	52	55	48	51	44	40
UCP750	735	535	270	89	78	83	72	78	67	60

Wall Mounted Enclosures
Polyester Range | Compact | Transparent Door | UCPT

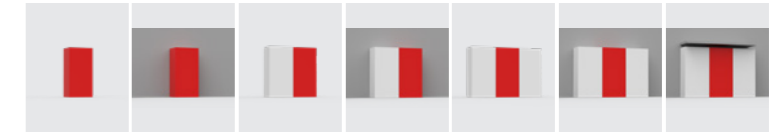
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
UCP860	835	635	300	117	102	110	95	103	88	79
UCPT1080	1035	835	300	173	148	164	140	155	131	119
UCPT430	415	315	170	31	27	29	25	27	23	20
UCPT540	515	415	230	51	45	48	42	45	39	34
UCPT640	615	415	230	59	52	55	48	51	44	40
UCPT750	735	535	270	89	78	83	72	78	67	60

Wall Mounted Enclosures
Polyester Range | Modular | Plain Door | UDP

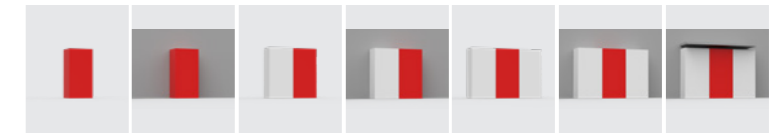
W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
UCPT860	835	635	300	117	102	110	95	103	88	79
UDP100100	1000	1000	320	198	170	189	161	180	152	136
UDP100102	1000	1000	320	198	170	189	161	180	152	136
UDP100125	1000	1250	320	237	202	228	193	219	184	165
UDP10050	1000	500	320	119	105	110	96	101	87	79
UDP10075	1000	750	320	158	137	149	128	140	119	108
UDP125100	1250	1000	320	239	204	228	193	217	182	166
UDP125102	1250	1000	320	239	204	228	193	217	182	166
UDP12575	1250	750	320	192	166	181	155	170	143	132
UDP5050	500	500	320	67	60	63	56	58	51	44
UDP5075	500	750	320	91	80	86	76	82	71	60
UDP75100	750	1000	320	156	135	149	128	143	122	106
UDP75125	750	1000	320	156	135	149	128	143	122	106
UDP7550	750	500	320	93	83	86	76	80	69	61

Wall Mounted Enclosures
Polyester Range | Modular | Transparent Door | UDPT

W ($\Delta T = 20$ K)



Enclosure	H (mm)	W (mm)	D (mm)	1	2	3	4	5	6	7
UDP7575	750	750	320	125	109	118	102	111	95	84
UDPT10050	1000	500	320	119	105	110	96	101	87	79
UDPT10075	1000	750	320	158	137	149	128	140	119	108
UDPT12575	1250	750	320	192	166	181	155	170	143	132
UDPT5050	500	500	320	67	60	63	56	58	51	44
UDPT5075	500	750	320	91	80	86	76	82	71	60
UDPT75100	750	1000	320	156	135	149	128	143	122	106
UDPT7550	750	500	320	93	83	86	76	80	69	61
UDPT7575	750	750	320	125	109	118	102	111	95	84

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