




TWN

FAN COIL UNITS



MARKING

This product marked  conforms to the essential requirements of the Directives:

- Low voltage no. 2006/95/EC.
- Electromagnetic Compatibility no. 2004/108/EC.



IMPORTANT

This appliance is not designed to be used by people (including children) whose physical, sensory or mental capacities are impaired, or who lack experience or knowledge, unless they are supervised or have received instructions on how to use the appliance by a person who is responsible for their safety. Children must be supervised to ensure that they do not play with the appliance or its accessories.

CONTENTS

1 - Application - Use	2
2 - Performances	3
3 - Physical characteristics	9
4 - Description	11
5 - Accessories	11

1 - APPLICATION - USE

1.1 GENERAL

- The **TWN** fan coil unit is intended for air-conditioning premises, providing comfort for the people in them.
- The device is intended for installation in sheltered premises (IP XO).
- Do not install the appliance in rooms that are damp or exposed to splashing water.

1.2 - FUNCTIONS

- Cooling.
- Heating.
- Ventilation with filtration (built-in filter).
- Main heating by electric elements.

1.3 - APPLICATIONS

- Since each interior has different requirements, the **TWN** range has been developed to satisfy the different constraints of architectural integration.
- Thus the fan coil unit can be installed in low wall position or on the ceiling, with or without its casing.

1.4 - PRECAUTIONS

- **Hydraulic circuit:**
 - Minimum water inlet temperature: 5°C.
 - Maximum water inlet temperature: 90°C.

Note: For reasons relating to comfort (homogeneity of the air temperature in the room), not exceeding a water inlet temperature of 55°C in the main batter is recommended.

- Maximum operating pressure: 10 bar.

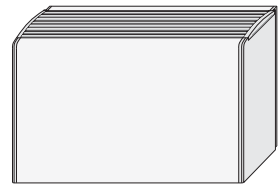
- **Ambient air:**
 - Minimum air recirculation temperature: 5°C,
 - Maximum air recirculation temperature: 32°C.

Important: During installation shut-down, in case of connection to an outside air vent or in case of ambient temperature near 0°C, there is a risk that the hoses may freeze. Envisage draining the hydraulic circuit.

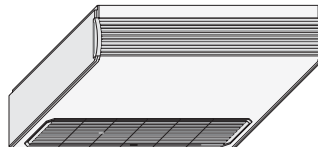
1.5 - MODELS

- 21 models (broken down into 7 models horizontal and vertical units with housing or built-in units without housing):
 - 2-pipe or 4-pipe versions (with additional battery),
 - 2-pipe Cooling + 2 wires (with electric heater element), except model 11.

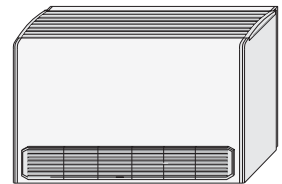
TWN - CV
Vertical model,
with casing.



TWN - CH
Model with casing.



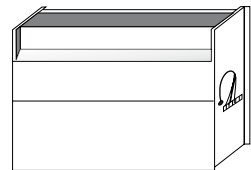
Horizontal installation



or vertical installation

TWN - NC
Model without casing.

Horizontal or
vertical installation



Note:

For units without casing, all protective devices must be provided at the time of installation in order to protect against dangerous electrical contacts.

2 - PERFORMANCES

2.1 WITH NOMINAL CONDITIONS

Size			02	03	04	05	06	08	11
Total cooling capacity	LS	kW	1.45	1.76	2.51	3.17	3.97	4.49	6.97
	(1) MS	kW	1.81	2.38	3.27	3.87	5.27	6.78	8.77
	HS	kW	2.09	2.93	4.33	4.77	6.71	8.71	10.95
Sensible cooling capacity	LS	kW	1.05	1.26	1.80	2.32	2.84	3.25	5.12
	(1) MS	kW	1.31	1.70	2.45	2.92	3.83	4.94	6.46
	HS	kW	1.51	2.11	3.15	3.65	4.91	6.38	8.07
Water flow rate in cooling mode	LS	litres/h	249	302	431	544	681	771	1,196
	(1) MS	litres/h	311	408	561	664	904	1,163	1,505
	HS	litres/h	359	503	743	818	1,152	1,494	1,879
Pressure drop on water in cooling mode	LS	kPa	7	5	5	7	5	6	14
	(1) MS	kPa	10	8	8	10	8	12	21
	HS	kPa	13	11	12	14	12	19	31
Heating capacity	LS	kW	1.79	2.28	3.29	4.24	4.77	5.65	8.90
	(2) MS	kW	2.18	3.08	4.30	5.21	6.23	8.46	11.1
	HS	kW	2.79	3.81	5.63	6.36	7.83	11.1	14.5
Pressure drop on water in heating mode	LS	kPa	5	4	4	6	4	5	12
	(2) MS	kPa	8	6	6	8	6	11	17
	HS	kPa	10	9	9	12	9	16	25
Heating capacity	LS	kW	1.79	2.3	3.47	4.04	5.69	6.12	8.82
	(3) MS	kW	2.04	2.83	4.19	4.65	6.83	7.95	10.21
	HS	kW	2.3	3	5.04	5.3	7.91	9.30	12.14
Water flow rate in heating mode	LS	litres/h	157	202	304	355	499	537	773
	(3) MS	litres/h	179	249	367	408	600	698	896
	HS	litres/h	202	286	442	465	694	816	1,065
Pressure drop on water in heating mode	LS	kPa	5	3	5	6	15	17	29
	(3) MS	kPa	6	4	7	8	21	27	37
	HS	kPa	8	5	10	10	27	36	50
Electric heating capacity	(8)	kW	1.5	1.6	2	2	3	3	---
Air flow rate	LS	m ³ /s	0.058	0.067	0.100	0.130	0.158	0.178	0.280
		m ³ /h	211	241	361	470	570	642	1,010
	(4) MS	m ³ /s	0.075	0.094	0.138	0.168	0.214	0.284	0.366
		m ³ /h	271	341	497	605	771	1,022	1,317
	HS	m ³ /s	0.095	0.123	0.196	0.218	0.280	0.387	0.514
		m ³ /h	344	442	706	785	1,011	1,393	1,850
Available static pressure	MS / HS		40 / 60	40 / 60	60 / 60	60 / 60	60 / 60	60 / 60	60 / 60
Characteristics of fan motor 230 V / 1 / 50 Hz	(5)	W	53	56	98	98	182	244	310
	(6)	A	0.24	0.25	0.44	0.44	0.80	1.12	1.52
Sound power level	LS	dB(A)	36	33	35	43	47	49	60
	(7) MS	dB(A)	44	41	43	49	54	59	64
	HS	dB(A)	50	47	52	56	61	66	71

(1) Air inlet: 27°C (DB) / 19°C (WB) ; water: 7°C / 12°C.

(2) Air inlet: 20°C ; water inlet: 50°C; same water flow-rate as under other conditions (1) (2-pipe system).

(3) Air inlet: 20°C ; water 70 / 60°C; additional coil (4-pipe system).

(4) Measurements with blowing fully opened (available pressure = 0 Pa) and water inlet temperature: 20°C.

(5) Nominal power consumption (at high speed).

(6) Nominal current consumption (at high speed).

(7) Tests carried out according to ISO 3741 and ISO 3742.



(8) The electric heating can only be used as the main heating for cold water installations. It should in no case be used as supplementary heating on installations operating with hot water.

- **Operating limits:**
 - Minimum water inlet temperature : 5°C.
 - Maximum water inlet temperature : 90°C.
 - Minimum air inlet temperature : 5°C.
 - Maximum pressure, side water : 10 bar.

2.2 - OTHER CONDITIONS - "2-PIPE" SYSTEM

2.2.1 - COOLING MODE - 2-pipe system

Air temperature			25°C (dry bulb) / 18°C (wet bulb)							
Water temperature			6 / 11				7 / 12			
			Pt	Ps	Q	DP	Pt	Ps	Q	DP
Sizes	TWN 02	LS	1.40	0.98	240	7	1.21	0.91	208	5
		MS	1.75	1.23	300	10	1.52	1.13	260	8
		HS	2.02	1.41	346	13	1.75	1.30	300	10
	TWN 03	LS	1.69	1.18	290	4	1.46	1.08	251	3
		MS	2.29	1.59	393	7	1.97	1.46	338	6
		HS	2.82	1.97	484	11	2.44	1.82	419	8
	TWN 04	LS	2.39	1.67	410	4	2.06	1.54	354	3
		MS	3.14	2.28	538	7	2.67	2.09	458	5
		HS	4.17	2.94	715	12	3.59	2.71	617	9
	TWN 05	LS	3.04	2.16	522	7	2.58	1.97	444	5
		MS	3.72	2.72	639	9	3.20	2.51	549	7
		HS	4.60	3.40	788	14	3.97	3.15	682	10
	TWN 06	LS	3.78	2.64	649	4	3.23	2.41	554	3
		MS	5.06	3.58	868	7	4.32	3.27	741	6
		HS	6.47	4.59	1,109	11	5.59	4.23	960	9
	TWN 08	LS	4.3	3.03	737	6	3.6	2.74	618	4
		MS	6.53	4.62	1,121	12	5.65	4.25	970	9
		HS	8.41	5.96	1,441	18	7.32	5.52	1,255	14
TWN 11	LS	6.73	4.79	1,154	13	5.91	4.45	1,015	11	
	MS	8.48	6.05	1,454	20	7.48	5.63	1,283	16	
	HS	10.59	7.55	1,816	29	9.34	7.04	1,602	23	

Air temperature			25°C (dry bulb) / 18°C (wet bulb)							
Water temperature			8 / 13				9 / 14			
			Pt	Ps	Q	DP	Pt	Ps	Q	DP
Sizes	TWN 02	LS	1.00	0.82	172	4	0.82	0.75	141	3
		MS	1.26	1.03	217	6	0.97	0.92	167	3
		HS	1.45	1.19	250	7	1.12	1.06	193	4
	TWN 03	LS	1.30	1.02	224	3	1.14	0.95	196	2
		MS	1.59	1.31	273	4	1.32	1.20	226	3
		HS	2.01	1.64	345	6	1.66	1.66	284	4
	TWN 04	LS	1.83	1.44	315	3	1.60	1.35	274	2
		MS	2.08	1.86	357	3	1.88	1.88	322	3
		HS	2.94	2.45	504	6	2.44	2.44	418	4
	TWN 05	LS	2.05	1.76	352	3	1.78	1.66	306	3
		MS	2.58	2.27	443	5	2.16	2.16	371	4
		HS	3.28	2.88	562	7	2.69	2.69	463	5
	TWN 06	LS	2.87	2.27	492	3	2.50	2.12	429	2
		MS	3.36	2.89	578	4	2.85	2.69	489	3
		HS	4.59	3.83	788	6	3.73	3.73	640	4
	TWN 08	LS	3.05	2.52	523	3	2.65	2.36	455	2
		MS	4.64	3.85	797	6	3.77	3.77	647	4
		HS	6.11	5.05	1,049	10	4.90	4.90	842	7
TWN 11	LS	5.00	4.08	859	8	3.87	3.65	655	5	
	MS	6.38	5.20	1,095	12	5.13	4.71	880	8	
	HS	7.98	6.51	1,371	18	6.48	5.95	1,113	12	

LS : Low speed.
MS : Medium speed.
HS : High speed.

Pt : Total cooling capacity in kW.
Ps : Sensible cooling capacity in kW.
Q : Water flow rate in litres / hour.
DP : Pressure drop on water in kPa.

2.2.1 - COOLING MODE - 2-pipe system (cont.)

Air temperature			27°C (dry bulb) / 19°C (wet bulb)							
Water temperature			6 / 11				7 / 12			
			Pt	Ps	Q	DP	Pt	Ps	Q	DP
Sizes	TWN 02	LS	1.63	1.12	279	9	1.45	1.05	249	7
		MS	2.03	1.40	348	13	1.81	1.31	311	10
		HS	2.35	1.61	403	16	2.09	1.51	359	13
	TWN 03	LS	1.99	1.36	341	6	1.76	1.26	302	5
		MS	2.67	1.82	459	10	2.38	1.70	408	8
		HS	3.29	2.26	564	14	2.93	2.11	503	11
	TWN 04	LS	2.85	1.95	489	6	2.51	1.80	431	5
		MS	3.69	2.62	632	9	3.27	2.45	561	8
		HS	4.87	3.37	835	15	4.33	3.15	743	12
	TWN 05	LS	3.57	2.49	613	9	3.17	2.32	544	7
		MS	4.35	3.12	747	12	3.87	2.92	664	10
		HS	5.36	3.89	919	18	4.77	3.65	818	14
	TWN 06	LS	4.51	3.07	774	6	3.97	2.84	681	5
		MS	5.93	4.11	1,016	10	5.27	3.83	904	8
		HS	7.52	5.25	1,289	15	6.71	4.91	1,152	12
	TWN 08	LS	5.07	3.50	870	7	4.49	3.25	771	6
		MS	7.59	5.28	1,302	15	6.78	4.94	1,163	12
		HS	9.74	6.80	1,671	23	8.71	6.38	1,494	19
TWN 11	LS	7.74	5.44	1,328	17	6.97	5.12	1,196	14	
	MS	9.72	6.86	1,669	25	8.77	6.46	1,505	21	
	HS	12.16	8.55	2,085	37	10.95	8.07	1,879	31	

Air temperature			27°C (dry bulb) / 19°C (wet bulb)							
Water temperature			8 / 13				9 / 14			
			Pt	Ps	Q	DP	Pt	Ps	Q	DP
Sizes	TWN 02	LS	1.26	0.97	216	5	1.05	0.89	180	4
		MS	1.57	1.22	270	8	1.32	1.12	226	6
		HS	1.81	1.40	311	10	1.51	1.29	260	8
	TWN 03	LS	1.50	1.15	258	4	1.32	1.08	227	3
		MS	2.06	1.57	353	6	1.68	1.42	289	4
		HS	2.54	1.95	436	9	2.11	1.79	362	6
	TWN 04	LS	2.10	1.64	361	3	1.86	1.54	319	3
		MS	2.80	2.26	481	6	2.23	2.05	383	4
		HS	3.75	2.92	643	10	3.09	2.67	530	7
	TWN 05	LS	2.71	2.14	466	5	2.15	1.92	370	4
		MS	3.34	2.71	574	8	2.73	2.48	469	5
		HS	4.14	3.40	710	11	3.43	3.14	589	8
	TWN 06	LS	3.31	2.57	569	4	2.91	2.42	500	3
		MS	4.53	3.53	778	6	3.63	3.19	624	4
		HS	5.83	4.56	1,001	9	4.83	4.17	829	7
	TWN 08	LS	3.82	2.98	655	4	3.09	2.70	530	3
		MS	5.89	4.58	1,011	10	4.88	4.20	838	7
		HS	7.60	5.94	1,305	15	6.38	5.48	1,096	11
TWN 11	LS	6.14	4.78	1,054	11	5.21	4.42	895	8	
	MS	7.75	6.05	1,330	17	6.63	5.62	1,139	13	
	HS	9.67	7.57	1,660	25	8.28	7.05	1,422	19	

LS : Low speed.
MS : Medium speed.
HS : High speed.

Pt : Total cooling capacity in kW.
Ps : Sensible cooling capacity in kW.
Q : Water flow rate in litres / hour.
DP : Pressure drop on water in kPa.

2.2.2 - HEATING MODE - 2-pipe system

Air temperature			22°C											
Water temperature			45 / 40			60 / 50			70 / 60			90 / 70		
			Pt	Q	DP	Pt	Q	DP	Pt	Q	DP	Pt	Q	DP
Sizes	TWN 02	LS	1.46	253	6	2.37	208	4	3.09	271	6	4.26	188	3
		MS	1.77	308	9	2.88	252	6	3.76	330	9	5.15	227	4
		HS	2.13	371	12	3.46	303	8	4.53	398	12	6.18	273	6
	TWN 03	LS	1.73	302	4	2.84	248	3	3.67	322	4	5.09	225	2
		MS	2.34	407	7	3.82	334	4	4.97	436	7	6.84	302	3
		HS	2.90	505	9	4.73	413	6	6.15	540	10	8.43	372	5
	TWN 04	LS	2.50	436	4	4.09	357	3	5.32	467	4	7.33	324	2
		MS	3.28	570	6	5.34	466	4	6.96	610	7	9.54	421	3
		HS	4.29	746	10	6.97	609	7	9.11	799	11	12.41	548	5
	TWN 05	LS	3.24	562	6	5.28	461	4	6.85	601	6	9.45	417	3
		MS	3.98	693	9	6.49	567	6	8.44	740	9	11.57	511	5
		HS	4.86	846	13	7.90	690	8	10.33	906	13	14.08	622	6
	TWN 06	LS	3.96	689	4	6.47	565	3	8.41	737	4	11.59	512	2
		MS	5.16	897	7	8.41	735	4	10.93	960	7	15.03	664	3
		HS	6.49	1,129	10	10.56	923	7	13.76	1,207	10	18.83	831	5
	TWN 08	LS	4.41	767	5	7.20	629	3	9.35	821	5	12.90	569	3
		MS	6.57	1,142	10	10.69	934	7	13.92	1,221	10	19.05	841	5
		HS	8.44	1,468	15	13.70	1,197	10	17.92	1,572	16	24.41	1,077	8
TWN 11	LS	6.77	1,177	11	11.04	965	8	14.30	1,255	12	19.68	869	6	
	MS	8.44	1,468	17	13.73	1,200	11	17.85	1,566	17	24.46	1,080	9	
	HS	11.08	1,926	27	17.98	1,571	18	23.49	2,060	28	32	1,413	14	

Air temperature			20°C											
Water temperature			45 / 40			60 / 50			70 / 60			90 / 70		
			Pt	Q	DP	Pt	Q	DP	Pt	Q	DP	Pt	Q	DP
Sizes	TWN 02	LS	1.60	279	7	2.53	221	5	3.25	285	7	4.42	195	3
		MS	1.95	340	10	3.07	268	6	3.95	346	10	5.34	236	5
		HS	2.35	409	14	3.69	322	9	4.76	418	13	6.41	283	6
	TWN 03	LS	1.91	332	5	3.02	264	3	3.86	339	4	5.29	233	2
		MS	2.58	449	8	4.07	356	5	5.22	458	7	7.11	314	4
		HS	3.20	556	11	5.03	439	7	6.46	567	11	8.76	380	5
	TWN 04	LS	2.76	480	5	4.36	381	3	5.59	490	5	7.62	336	2
		MS	3.61	628	8	5.69	497	5	7.30	641	7	9.91	437	4
		HS	4.73	823	12	7.42	648	8	9.57	840	12	12.89	569	6
	TWN 05	LS	3.57	620	7	5.63	491	5	7.20	632	7	9.81	433	3
		MS	4.39	763	11	6.90	603	7	8.86	778	10	12.02	530	5
		HS	5.36	932	15	8.41	735	9	10.85	952	14	14.62	645	7
	TWN 06	LS	4.37	759	5	6.89	602	3	8.83	774	5	12.04	531	2
		MS	5.69	989	8	8.96	783	5	11.48	1,008	7	15.61	689	4
		HS	7.15	1,244	12	11.24	982	7	14.45	1,268	11	19.55	863	5
	TWN 08	LS	4.86	845	6	7.67	670	4	9.82	862	6	13.39	591	3
		MS	7.24	1,258	12	11.37	994	7	14.63	1,283	11	19.78	873	5
		HS	9.31	1,618	18	14.59	1,275	11	18.83	1,652	17	25.35	1,119	8
TWN 11	LS	7.45	1,295	13	11.75	1,026	8	15.02	1,317	13	20.43	902	6	
	MS	9.29	1,616	20	14.61	1,277	12	18.75	1,645	19	25.39	1,121	9	
	HS	12.21	2,123	32	19.15	1,673	20	24.67	2,164	30	33.23	1,467	15	

LS : Low speed.
MS : Medium speed.
HS : High speed.

Pt : Total cooling capacity in kW.
Q : Water flow rate in litres / hour.
DP : Pressure drop on water in kPa.

2.3 - OTHER CONDITIONS - "4-PIPE" SYSTEM (additional coil)

2.3.1 - HEATING MODE - 4-pipe system

Air temperature			22°C											
Water temperature			45 / 40			60 / 50			70 / 60			90 / 70		
			Pt	Q	DP	Pt	Q	DP	Pt	Q	DP	Pt	Q	DP
Sizes	TWN 02	LS	0.78	135	4	1.25	109	3	1.70	149	5	2.25	99	2
		MS	0.89	155	5	1.42	124	3	1.94	170	6	2.55	113	3
		HS	1	175	7	1.61	140	4	2.19	192	7	2.87	127	3
	TWN 03	LS	0.96	168	2	1.54	135	1	2.18	191	3	2.82	124	1
		MS	1.19	208	3	1.91	166	2	2.69	236	4	3.48	154	2
		HS	1.38	240	4	2.20	193	3	3.09	271	5	4.02	177	2
	TWN 04	LS	1.51	263	5	2.43	212	3	3.30	289	5	4.38	193	2
		MS	1.83	319	6	2.94	257	4	3.98	349	7	5.26	232	3
		HS	2.21	383	9	3.53	308	6	4.78	420	9	6.30	278	4
	TWN 05	LS	1.91	332	8	3.07	268	5	4.10	360	7	5.46	241	4
		MS	2.15	374	10	3.46	302	7	4.63	407	11	6.15	272	5
		HS	2.48	431	13	3.98	347	8	5.34	469	14	7.08	312	6
	TWN 06	LS	2.53	440	13	4.08	356	9	5.41	475	14	7.26	320	7
		MS	3.04	528	18	4.89	427	12	6.50	570	19	8.68	383	9
		HS	3.51	610	23	5.64	493	15	7.53	660	24	10.02	443	12
	TWN 08	LS	2.72	473	15	4.38	383	10	5.82	511	16	7.80	344	8
		MS	3.53	614	24	5.67	495	16	7.57	664	25	10.08	445	12
		HS	4.12	717	31	6.61	578	20	8.85	777	33	11.75	519	16
TWN 11	LS	3.93	684	25	6.33	553	16	8.39	736	26	11.23	496	13	
	MS	4.55	791	32	7.31	639	21	9.72	853	34	12.98	573	16	
	HS	5.40	939	44	8.67	758	29	11.55	1,014	46	15.38	679	22	

Air temperature			20°C											
Water temperature			45 / 40			60 / 50			70 / 60			90 / 70		
			Pt	Q	DP	Pt	Q	DP	Pt	Q	DP	Pt	Q	DP
Sizes	TWN 02	LS	0.87	151	5	1.34	117	3	1.79	157	5	2.34	103	2
		MS	0.99	172	6	1.53	133	4	2.04	179	6	2.65	117	3
		HS	1.12	194	8	1.72	150	5	2.30	202	8	2.99	132	4
	TWN 03	LS	1.09	189	3	1.67	145	2	2.30	202	3	2.95	130	1
		MS	1.34	234	4	2.06	180	2	2.83	249	4	3.63	160	2
		HS	1.56	270	5	2.38	208	3	3.26	286	5	4.20	185	2
	TWN 04	LS	1.69	293	5	2.60	228	3	3.47	304	5	4.56	201	2
		MS	2.04	355	8	3.15	275	5	4.19	367	7	5.47	242	3
		HS	2.45	426	11	3.78	330	6	5.04	442	10	6.56	289	5
	TWN 05	LS	1.97	343	6	3.05	266	4	4.04	355	6	5.29	234	3
		MS	2.26	393	8	3.49	305	5	4.65	408	8	6.06	268	4
		HS	2.58	448	10	3.97	347	6	5.30	465	10	6.89	304	5
	TWN 06	LS	2.80	486	16	4.35	380	10	5.69	499	15	7.54	333	7
		MS	3.36	584	21	5.21	456	13	6.83	600	21	9.02	398	10
		HS	3.89	675	28	6.02	526	17	7.91	694	27	10.41	460	12
	TWN 08	LS	3.01	523	18	4.68	409	11	6.12	537	17	8.10	358	8
		MS	3.91	679	28	6.05	259	17	7.95	698	27	10.47	462	13
		HS	4.56	793	37	7.06	617	23	9.30	816	36	12.21	539	17
TWN 11	LS	4.34	755	30	6.75	589	18	8.82	773	29	11.66	515	13	
	MS	5.03	894	39	7.80	681	24	10.21	896	37	13.48	595	17	
	HS	5.97	1,038	52	9.25	808	32	12.14	1,065	50	15.97	705	23	

LS : Low speed.
MS : Medium speed.
HS : High speed.

Pt : Total cooling capacity in kW.
Q : Water flow rate in litres / hour.
DP : Pressure drop on water in kPa.

2.4 - OTHER CONDITIONS

- Please, consult us.

2.5 - AIR FLOW PERFORMANCES - NC models

- Available static pressure.

PSD		Pa	10		20		30		40		50		60	
		mm H ₂ O	1		2		3		4		5		6	
			F ₁	F ₂	F ₁	F ₂	F ₁	F ₂	F ₁	F ₂	F ₁	F ₂	F ₁	F ₂
Sizes	TWN 02	HS	0.85	0.89	0.73	0.78	0.61	0.67	0.50	0.57	0.40	0.47	0.31	0.36
		MS	0.82	0.85	0.63	0.68	0.45	0.50	0.27	0.30	---	---	---	---
		LS	0.78	0.80	0.55	0.59	0.35	0.37	---	---	---	---	---	---
	TWN 03	HS	0.89	0.91	0.77	0.81	0.64	0.69	0.51	0.56	0.36	0.40	0.18	0.21
		MS	0.82	0.84	0.64	0.67	0.47	0.50	0.29	0.32	---	---	---	---
		LS	0.75	0.77	0.48	0.50	---	---	---	---	---	---	---	---
	TWN 04	HS	0.93	0.95	0.85	0.89	0.77	0.82	0.67	0.73	0.56	0.63	0.42	0.50
		MS	0.91	0.93	0.81	0.84	0.71	0.75	0.59	0.64	0.46	0.51	0.31	0.35
		LS	0.84	0.86	0.68	0.71	0.52	0.55	0.34	0.36	---	---	---	---
	TWN 05	HS	0.93	0.95	0.85	0.89	0.77	0.81	0.67	0.73	0.56	0.62	0.41	0.47
		MS	0.92	0.93	0.82	0.86	0.73	0.77	0.61	0.66	0.48	0.53	0.31	0.36
		LS	0.86	0.88	0.71	0.74	0.56	0.59	0.40	0.43	0.23	0.25	---	---
	TWN 06	HS	0.96	0.96	0.91	0.92	0.86	0.88	0.80	0.83	0.74	0.78	0.67	0.71
		MS	0.95	0.96	0.90	0.92	0.85	0.87	0.79	0.81	0.73	0.76	0.65	0.69
		LS	0.91	0.92	0.81	0.82	0.71	0.73	0.60	0.62	0.49	0.51	0.37	0.39
	TWN 08	HS	0.96	0.97	0.92	0.93	0.87	0.89	0.82	0.85	0.77	0.81	0.72	0.76
		MS	0.95	0.96	0.90	0.91	0.84	0.86	0.78	0.81	0.71	0.75	0.64	0.68
		LS	0.92	0.93	0.84	0.86	0.76	0.78	0.67	0.69	0.57	0.60	0.47	0.50
TWN 11	HS	0.96	0.97	0.93	0.94	0.89	0.91	0.85	0.88	0.80	0.84	0.76	0.80	
	MS	0.96	0.96	0.91	0.92	0.86	0.88	0.81	0.84	0.75	0.79	0.70	0.74	
	LS	0.94	0.95	0.87	0.89	0.80	0.83	0.73	0.76	0.66	0.69	0.58	0.62	

LS : Low speed.

MS : Medium speed.

HS : High speed.

PSD : Available static pressure.

F₁ : Multiplying coefficient on the air flow.

F₂ : Multiplying coefficient on the output.

1 - The correction factors are calculated for flush fitted devices equipped with a clean air filter (NC).

2 - Electric heating accessory:

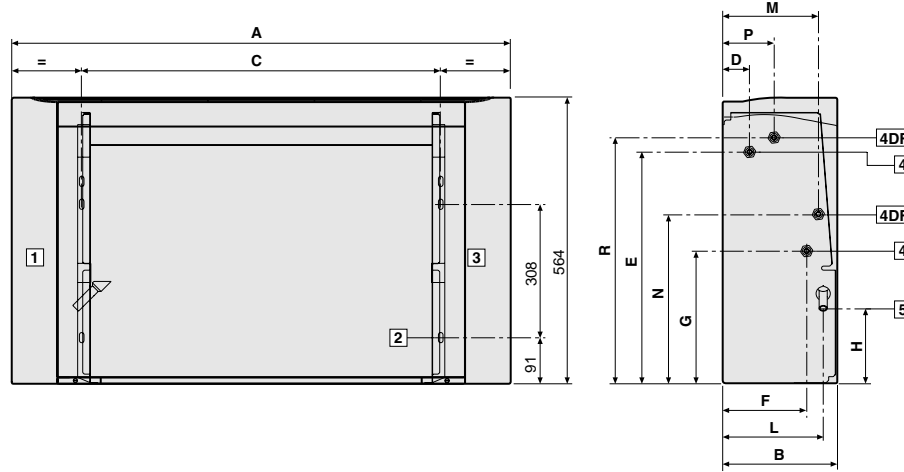


Zone in which electric heating operation is authorized.

- Size **TWN 11**:
 - No electrical heating auxiliary available.
- All sizes at low speed, with pressure available:
 - **Use of electrical heating prohibited.**
- Control **K70P090Z**:
 - With this controller, the **fan runs at medium speed only** when electrical heating is used.
- Control **K70P091Z**:
 - With this controller, the **fan runs at medium speed only** when electrical heating is used.

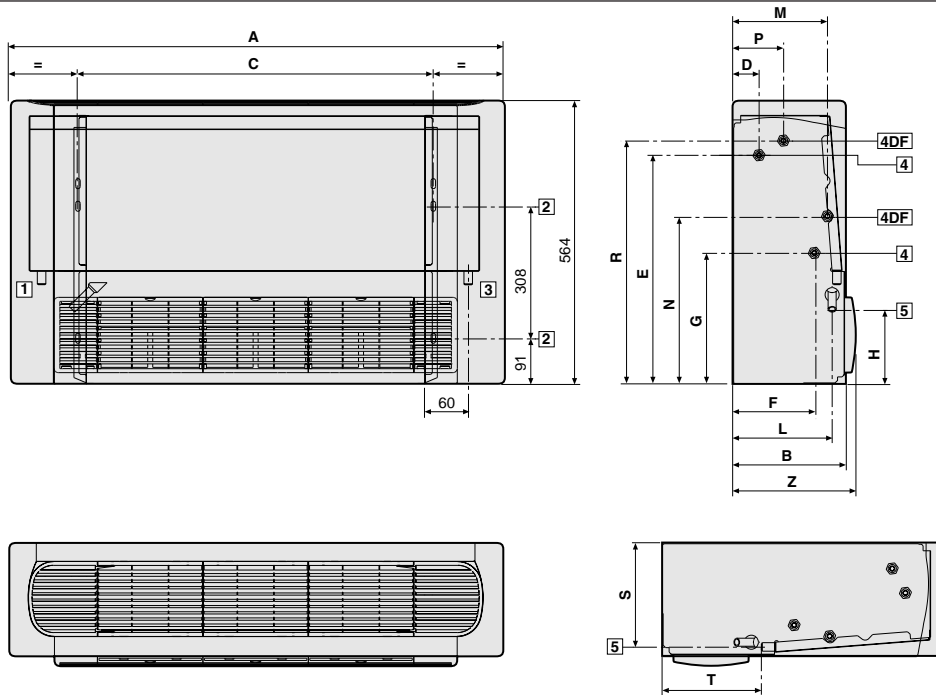
3 - PHYSICAL CHARACTERISTICS

TWN - CV



	A	B	C	D	E	F	G	H	L	M	N	P	R
TWN 02	774	226	498	51	458	163	263	149	198	187	335	99	486
03	984	226	708	51	458	163	263	149	198	187	335	99	486
04 - 05	1,194	226	918	51	458	163	263	149	198	187	335	99	486
06 - 08	1,404	251	1,128	48	497	185	259	155	220	195	348	120	478
11	1,614	251	1,338	48	497	185	259	155	220	195	348	120	478

TWN - CH

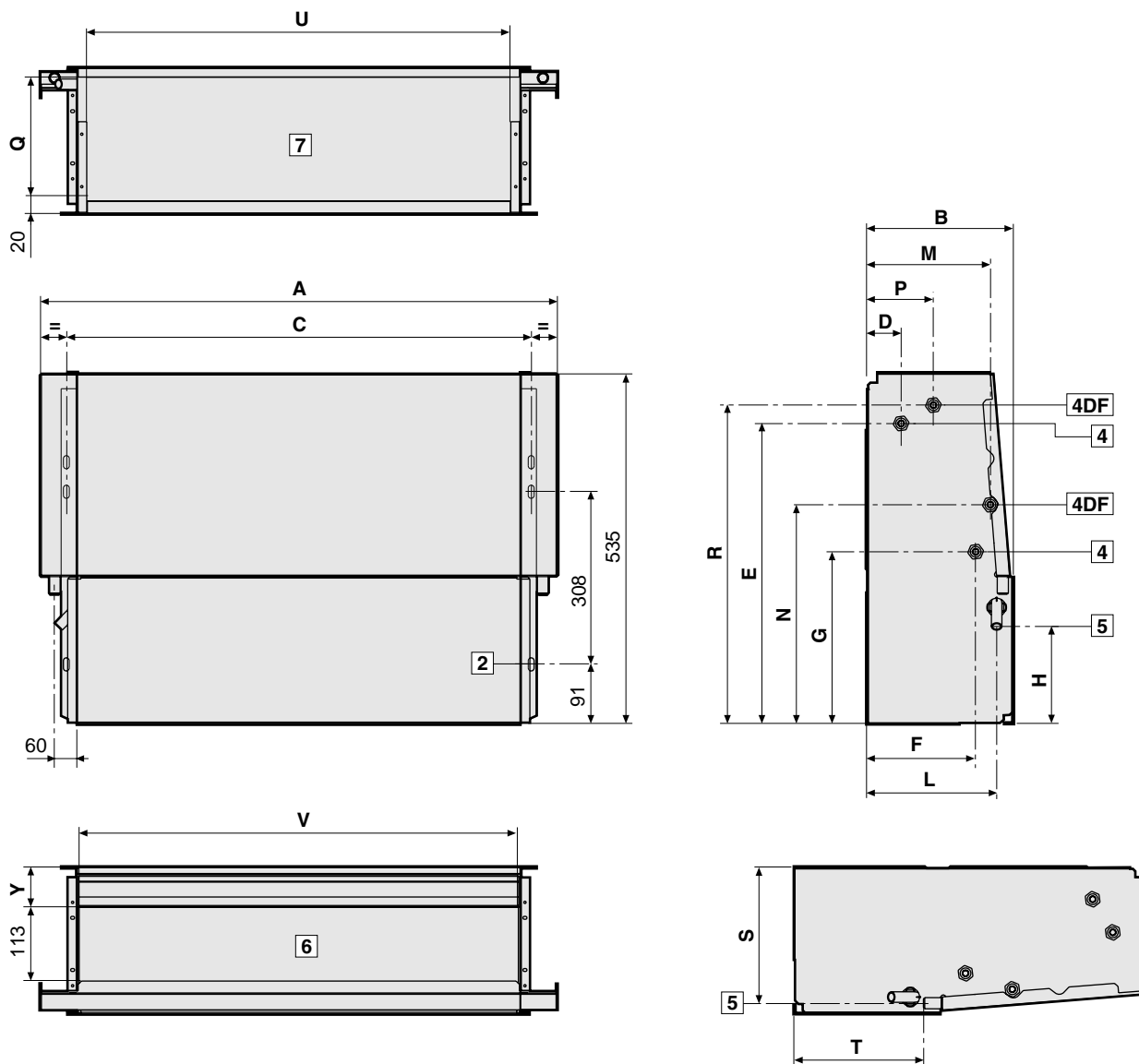


	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T	Z
TWN 02	774	226	498	51	458	163	263	149	198	187	335	99	486	208	198	246
03	984	226	708	51	458	163	263	149	198	187	335	99	486	208	198	246
04 - 05	1,194	226	918	51	458	163	263	149	198	187	335	99	486	208	198	246
06 - 08	1,404	251	1,128	48	497	185	259	155	220	195	348	120	478	234	208	271
11	1,614	251	1,338	48	497	185	259	155	220	195	348	120	478	234	208	271

- 1 : Space required for hydraulic connections.
- 2 : Mounting holes.
- 3 : Space required for electrical connections.
- 4 : Standard water coil hydraulic connections.
- 4DF : Additional water coil hydraulic connections (4-pipe system).
- 5 : Condensate drainage.

For hydraulic connections, the water supply input is always set in the lower part of the exchanger.

TWN - NC



	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	S	T	U	V	Y
TWN 02	584	224	498	51	458	163	263	149	198	187	335	99	189	486	208	198	436	464	61
03	794	224	708	51	458	163	263	149	198	187	335	99	189	486	208	198	646	674	61
04 - 05	1,004	224	918	51	458	163	263	149	198	187	335	99	189	486	208	198	856	884	61
06 - 08	1,214	249	1,128	48	497	185	259	155	220	195	348	120	215	478	234	208	1,066	1,094	67
11	1,424	249	1,338	48	497	185	259	155	220	195	348	120	215	478	234	208	1,276	1,304	67

- 2** : Mounting holes.
- 4** : Standard water coil hydraulic connections.
- 4DF** : Additional water coil hydraulic connections (4-pipe system).
- 5** : Condensate drainage.
- 6** : Discharge opening.
- 7** : Air intake.

For hydraulic connections, the water supply input is always set in the lower part of the exchanger.

4 - DESCRIPTION

Size			02	03	04	05	06	08	11
Structure: galvanised steel sheet			●	●	●	●	●	●	●
Casing (CV, CH)			●	●	●	●	●	●	●
Painted sheetmetal			●	●	●	●	●	●	●
Discharge grille, ABS			●	●	●	●	●	●	●
Access door, ABS			●	●	●	●	●	●	●
Centrifugal fan double inlet	1 turbine		●	---	---	---	---	---	---
	2 turbines		---	●	●	●	●	●	---
	3 turbines		---	---	---	---	---	---	●
Electric motor with internal thermal protection and protection class IP 32			●	●	●	●	●	●	●
Power supply	230V/1/50Hz		●	●	●	●	●	●	●
Rotation speed	LS	rpm	752	500	590	730	495	550	750
	MS	rpm	830	650	760	930	660	815	930
	HS	rpm	1,030	820	1,000	1,155	840	1,075	1,300
Current*	LS	A	0.11	0.14	0.19	0.22	0.40	0.55	0.95
	MS	A	0.16	0.20	0.28	0.31	0.57	0.79	1.11
	HS	A	0.24	0.25	0.44	0.44	0.80	1.12	1.52
Power consumption*	LS	W	24	29	38	47	86	109	210
	MS	W	36	43	61	68	127	169	240
	HS	W	53	56	98	98	182	244	310
Copper / aluminium coil			●	●	●	●	●	●	●
Number of rows			3	3	3	3	3	3	3
Hydraulic connection (female gas thread)			1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"
Water capacity		Litres	0.7	1	1.4	1.4	2.1	2.1	2.6
Additional coil (accessory)			●	●	●	●	●	●	●
Number of rows			1	1	1	1	1	1	1
Hydraulic connection (female gas thread)			1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Water capacity		Litres	0.2	0.3	0.4	0.4	0.6	0.6	0.9
Electric heating (accessory)			●	●	●	●	●	●	---
Number of pins			1	1	1	1	1	1	---
Power per pin		W	1,500	1,600	2,000	2,000	3,000	3,000	---
Thermal protection with automatic reset + Thermal overload fuse			●	●	●	●	●	●	---
Synthetic filter			●	●	●	●	●	●	●

* Without electric heating and control system.

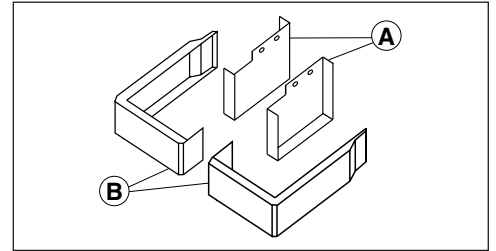
5 - ACCESSORIES

5.1 - ACCESSORIES

	TWN - CV	TWN - CH		TWN - NC	
		Vertical installation	Horizontal installation	Vertical installation	Horizontal installation
Set of 2 stands	●	---	---	---	---
Valve kit, 2-pipe / 4-pipe	●	●	●	●	●
Auxiliary condensate drain pan	●	●	●	●	●
Electric heating kit	●	●	●	●	●
Additional coil, 1 row	●	●	●	●	●
External air intake grille	●	●	●	●	●
Internal air return grille with filter	---	---	---	●	●
Dual deflector discharge grille	---	---	---	●	●
Rear panel	●	●	---	---	---
Rear panel	---	---	●	---	---
Fresh air intake damper, manual	●	---	---	●	---
Fresh air intake damper, motorized	●	---	---	●	---

5.1.1 - SET OF STANDS

- For vertical devices with cabinet (CV).
- The accessory includes:
 - Support (A),
 - Plastic casing (B),
 - Fastening screw.
- Height 100 mm.

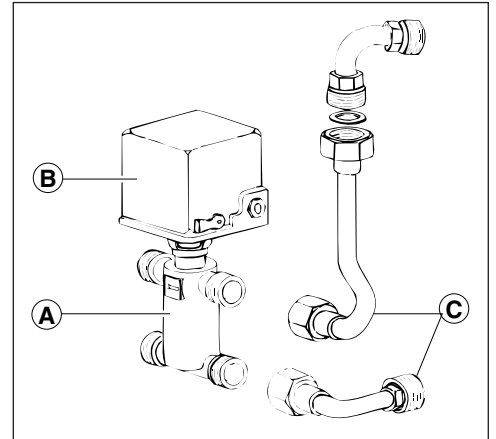


5.1.2 - VALVE KIT

- The valve kits comprise:

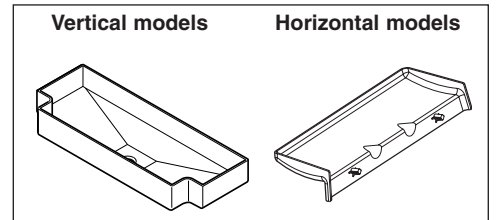
	2 pipes	4 pipes
- Valve body (A),	1	2
- Thermal actuator (B),	1	2
- Connection kit (C) between the exchanger and the valve	1	2
- Once the valves are installed, "male gas thread" connections can be seen.

	Connection diameters		
	TWN 02 to 03	TWN 04 to 05	TWN 06 to 11
2 pipes system	1/2"	3/4"	3/4"
4 pipes system additional coil	1/2"	1/2"	1/2"



5.1.3 - Auxiliary condensate drain pan

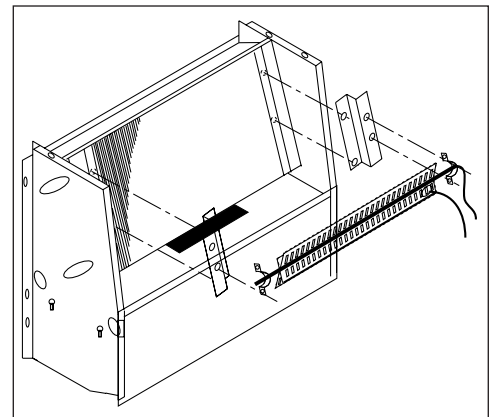
- Used on all vertical and horizontal devices.
- It permits collecting the condensates that can form on the piping and body of the valve in the case of poor or no insulation.
- Its position also permits it to collect condensates from the main tank and thus removal via a single outlet tube (Ø 16 mm).



5.1.4 - Electric heating kit (2-pipe Cooling)

- This is composed of:
 - 1 electric resistance shielded with aluminium fins.
 - 1 thermal protection with automatic reset.
 - 1 thermal protection with manual reset (thermal overload fuse).
 - 1 power switch on a DIN rail.
 - Fastening elements.
 - A set of grilles which should replace the grilles delivered with the fan coil unit (CV, CH). These grilles withstand the heat better through time.

TWN model	02	03	04	05	06	08
Power W	1,500	1,600	2,000	2,000	3,000	3,000
Number of elements	1	1	1	1	1	1



NOTE:

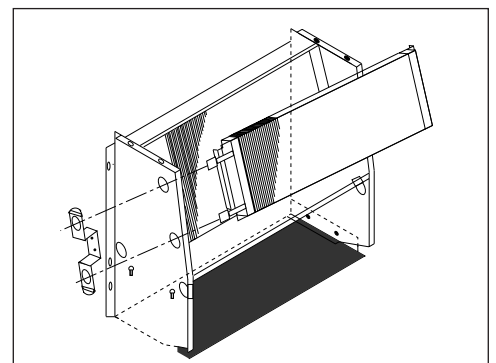
- This heater must not be used as supplementary heating on installations operating with hot water.
- The electric heating cannot be used in conjunction with the additional coil.
- Precautions are to be taken when selecting for NC models.
- The electrical power supply (230 Vac) must be separate.

5.1.5 - Additional coil, 1 row

- This accessory is used when the device is installed as a 4 pipe system.
- It includes:
 - a 1 row exchanger,
 - the required fastening.

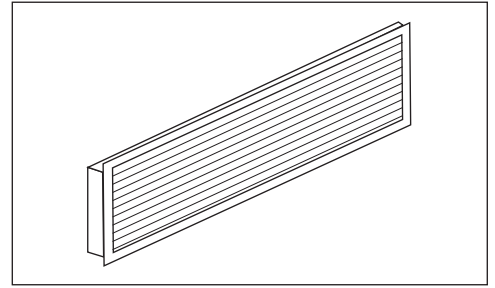
NOTE:

The additional coil cannot be used in conjunction with the electric heating.



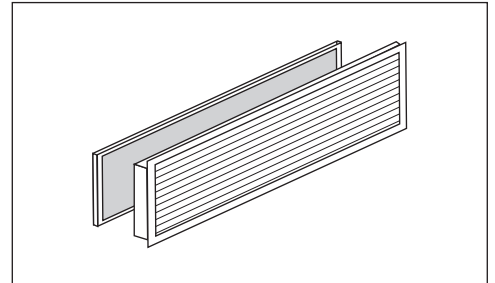
5.1.6 - External air intake grille GE + C

- This grille is in anodised aluminium.
The fins are fixed.
The frame is in galvanised steel + counter-frame.
- By using it with a new air register, it permits the intake of external air.



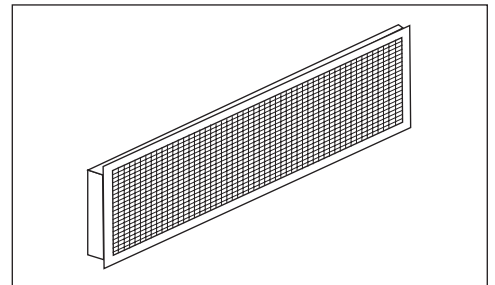
5.1.7 - Internal air return grille with filter GEF + C

- This grille is in anodised aluminium.
The fins are fixed.
The built-in, easy access filter facilitates the maintenance of flush fitted devices. This filter is made of synthetic material and replaces that delivered with the device.
- **NOTE:** In order to prevent any risk of clogging and malfunctioning, the filter delivered with the device must be eliminated.
- The frame and counter-frame are made of galvanised steel.



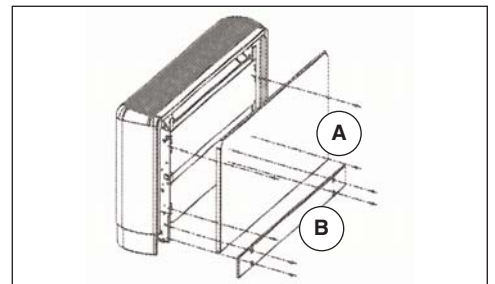
5.1.8 - Dual deflector discharge grille GM + C

- This grille is in anodised aluminium.
The fins can be oriented vertically and horizontally.
- For flush-fitted horizontal devices, it permits obtaining good air diffusion in the premises to be ventilated.
- The frame and counter-frame are made of galvanised steel.



5.1.9 - Rear panel CV / Vertical CH

- These panels (A) + (B) are required when the device is installed, for example, with its rear facing a window.
- Material: painted, galvanised steel.
- Upper rear panel (A) and lower rear trim cover (B).

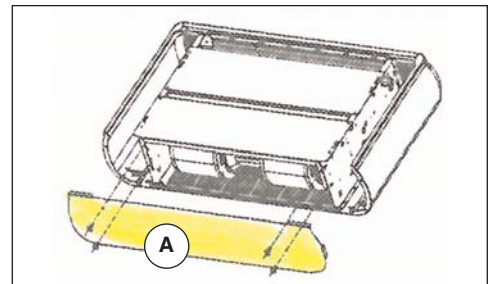


5.1.10 - Rear panel Horizontal CH

- This panel (A) is required when the unit is installed horizontally in the middle of the room.
- Material: painted, galvanised steel.

NOTE:

Precautions are to be taken for condensate drainage.



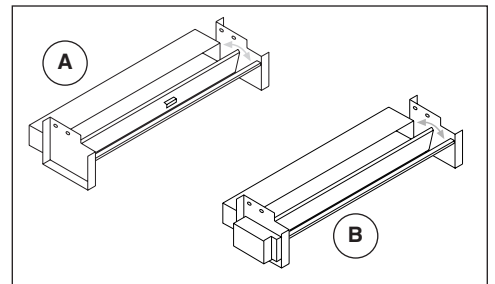
5.1.11 - Fresh air damper

- This accessory is available in two versions:
 - Manual (A):
The quantity of external air must be regulated manually.
 - Motorised (B):
The flap is motorised and can be activated either by a variator to be assembled in the device, or a remote variator.

NOTE:

These dampers are not equipped with a reset to zero system in the case of power failure.

An adequate anti-freeze system should be used in order to protect the exchangers from frost.



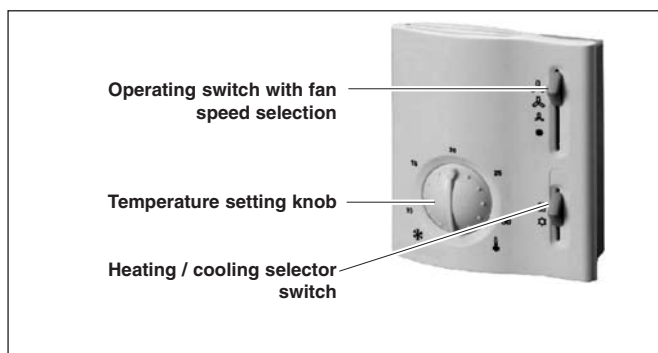
5.2 - REMOTE CONTROLLED ACCESSORIES AND BUILT-IN CONTROLS

5.2.1 - REMOTE CONTROLS

Model TWN	TWN 2-pipe	TWN 2-pipe Cooling + electric heating	TWN 4-pipe
70250076 (RAB 30) Manual remote control for 2-pipe or 4-pipe units	Action on valve or ventilation	–	Action on valves
70250051 (RCC 10) Automatic remote control for 2-pipe units without electric heating	Action on valve or ventilation	–	–
70250052 (RCC 20) Automatic remote control for 2-pipe units Cooling + electric heating or 4-pipe units	–	Action on valve + on electric heating element	Action on valves
70250053 Change-over sensor with support for RCC (may be used as a remote air recirculation sensor)	Water sensor or air sensor	Air sensor	Air sensor
70250054 Air temperature sensor in box for RCC (remote sensor)	●	●	●
K70P090Z Automatic remote control for 2-pipe units Cooling + electric heating or 2-pipe and 4-pipe	Action on valve and on ventilation	Action on valve + on electric heating element	Action on valves
K70P091Z (Master / Slave function + dehumidification) Automatic remote control for 2-pipe units Cooling + electric heating or 2-pipe and 4-pipe	Action on valve and on ventilation	Action on valve + on electric heating element	Action on valves
K70P093Z Air / Water temperature sensor	Water sensor or air sensor	Air sensor	Air sensor
K70P094Z Humidity sensor for K70P091Z only	●	●	●

A - MANUAL REMOTE CONTROL

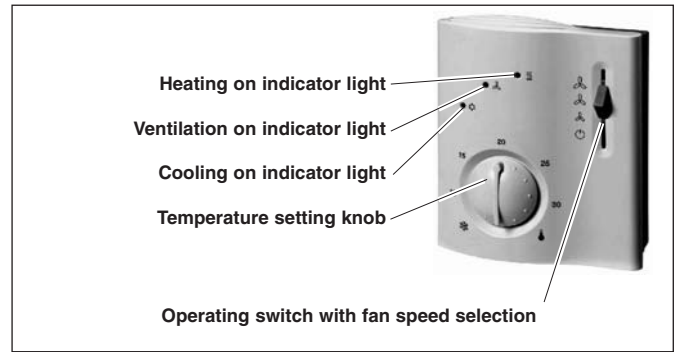
- Code **70250076 (RAB 30)**
- The operating mode is selected **manually** by a switch on the front of the remote control.
 - Technology : electromechanic
 - Power supply : 230 Vac
 - Set-point adjustment range: 8 / 30°C
(possibility of mechanical limitation by jumpers on the knob)
 - "On / Off" action
 - Control differential : ≤1K
 - Operating temperature : 0 / 50°C
 - Relative humidity : < 95%
 - Protection class : cl. II
 - IP : 30
 - Colour : White RAL 9003



B - AUTOMATIC REMOTE CONTROLS

- Type **RCC 10 - code 70250051** and type **RCC 20 - code 70250052**
- Selection of the operating mode is done **automatically**.
- **For the 2-pipe TWN models** capable of heating and cooling operation, a change-over sensor must be connected (accessory, code **70250053**) to the installation on the water piping.
This change-over sensor can be replaced by a potential-free contact (not supplied), the closing of which causes changeover to cooling mode.
- There is a possibility to connect a remote air temperature sensor, bare (accessory, code **70250053**) or box mounted (accessory, code **70250054**).
- Permanent or slaved ventilation.
- Mode change is possible (**Eco** or **Stand-by**) by an external potential-free contact (not supplied).

- Technology : electronic
- Power supply : 230 Vac
- Set-point adjustment range : 8 / 30°C
(possibility of mechanical limitation by jumpers on the knob)
- "On / Off" action
- Heating differential : adjustable 1 or 4^K
- Cooling differential : adjustable 0.5 or 2^K
- Neutral zone (on RCC 20) : adjustable 2 or 5^K
- Setpoint in "Eco" mode : 16°C in heating mode
28°C in cooling mode
- Setpoint in "Standby" : 8°C in heating mode
- Operating temperature : 0 / 50°
- Relative humidity : < 95%
- Protection class : cl. II
- IP : 30
- Colour : White RAL 9003



B - AUTOMATIC REMOTE CONTROLS WITH LCD DISPLAY

- **Code K70P040Z:** automatic changeover, **Eco** mode, **frost protection** mode, sensor alarms.
- **Code K70P041Z:** same characteristics + **Master / Slave** system (up to 247 units) + dehumidification.
- For the 2-tube Cooling + electric heating or 2 and 4-pipe units.

- Technology : electronic
- Power supply : 230 Vac
- Set-point adjustment range: 5 / 35°C
- "On / Off" action
- Control differential : ≤1K
- Operating temperature : 0 / 50°C
- Relative humidity : 20 - 90%
- Protection class : cl. 1
- IP : 30
- Colour : White RAL 9003



- Refer to the technical instructions for all technical specifications.

D - BARE TEMPERATURE SENSORS

code 70250053 for RCC and K70P093Z for K70P090Z and K70P091Z

- 2 possible uses:
 - change over probe for "2-pipe" appliances may operate in heating and cooling mode,
 - air temperature probe (to be placed on the air intake).
- Thermistance type CTN 3 kΩ at 25°C (**RCC**) and 10 kΩ at 25°C (**K70P093Z**).
- IP 65 - protection class: cl. II (IP 30 for **K70P090Z** and **K70P091Z**).

E - BOX-MOUNTED AIR TEMPERATURE SENSOR - code 70250054

- For **RCC** remote controls.
- Enables the control unit to be placed outside the room to be air conditioned.
- Thermistance type CTN 3 kΩ at 25°C.
- The unit is mounted in a box similar to the remote control (IP 30 - protection class: cl. II - colour: white RAL 9003).

F - POSITION VARIATOR FOR THE MOTORISED DAMPER - code K70D032Z

- Turn the damper position variator in order to regulate the quantity of fresh air to be introduced into the premises.
- Can be used on **TWN CV** and vertical **NC**.

G - HUMIDITY SENSOR - code K70P094Z for K70P091Z only

5.2.2 - BUILT-IN CONTROLS

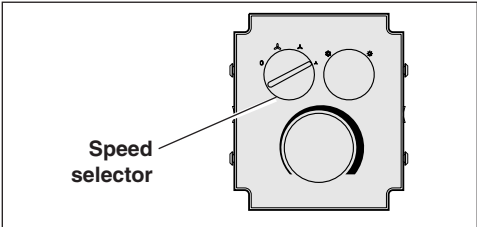
Built-in control	TWN - CV	TWN - CH		TWN - NC	
		Vertical	Horizontal	Vertical	Horizontal
K70P034Z Speed selector (does not ensure temperature setting)	●	●	---	●	---
K70P035Z Action on ventilation Heating only or Cooling only	●	●	---	●	---
K70P036Z Action on ventilation Electromechanical, manual summer/winter switch	●	●	---	●	---
K70P090Z and K70P091Z (1)	1-valve control	●	●	●	---
	2-valve control	●	●	●	---
K70P091Z (1) 1-valve control in cooling + electric heating	●	●	---	●	---
K70P040Z Position variator for the motorised damper	●	●	---	●	---

(1) Requires integration kit **K70P092Z**.

A - SPEED SELECTOR - code K70P034Z

- Does not ensure temperature setting.
- Position "0" corresponds to device off.

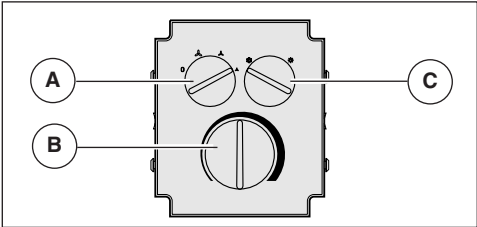
Supply voltage	: 230 Vac
Operating temperature	: 0 / 40°C



B - ELECTROMECHANICAL THERMOSTAT - code K70P036Z

- Control by action on ventilation.
- Switching the direction of thermostat operation (cooling or heating) is done via selection switch **C**.
 - **A**: Speed selector (position "0" = device off).
 - **B**: Temperature set-point adjustment knob.

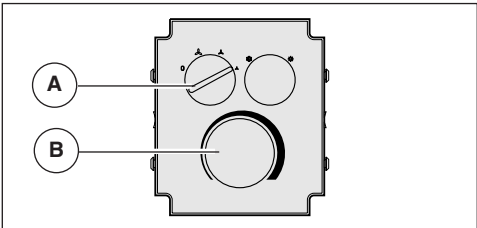
Supply voltage	: 230 Vac
Operating temperature	: 0 / 40°C



C - ELECTROMECHANICAL THERMOSTAT - code K70P035Z

- Control by action on ventilation in Heating only.
- This thermostat does not have a Cooling / Heating switch.
 - **A**: Speed selector (position "0" = device off).
 - **B**: Temperature set-point adjustment knob.

Supply voltage	: 230 Vac
Operating temperature	: 0 / 40°C



Note: The integration kit is required to install the controller inside the TWN.

D - ELECTRONIC CONTROL WITH LCD DISPLAY - code K70P090Z or K70P091Z

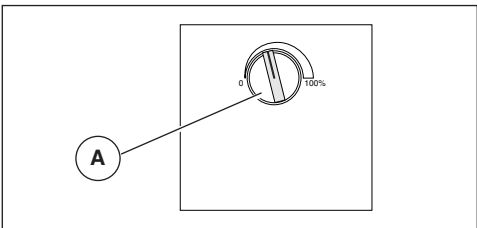
- Action on 1 valve or action on 2 valves or action on 1 valve in cooling + electric heating.
 - Automatic Cooling / Heating mode.
 - Automatic fan speed variation.
 - Eco / Frost protection mode.
 - Sensor alarm
 - Dehumidification mode (**K70P091Z**).

Supply voltage	: 230 Vac
Operating temperature	: 0 / 50°C



E - POSITION VARIATOR FOR THE MOTORISED DAMPER - code K70P040Z

- Turn the damper position variator in order to regulate the quantity of fresh air to be introduced into the premises.



F - POWER INTERFACE KIT

- Allows 4 fan coil units to be connected in parallel on a single remote control.



Due to our policy of continuous development, our products are liable to modification without notice.

Technibel

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