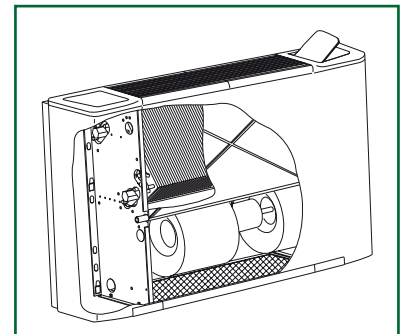
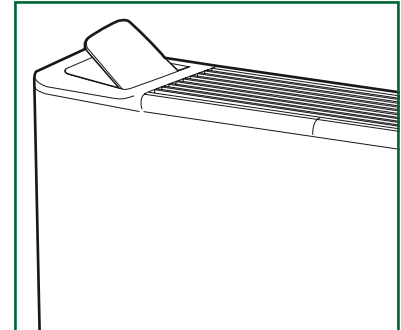


QZM "Classic" fan coil with centrifugal fan



For our most traditional version, we focused our attention on design, optimization of practicality as well as on noise level reduction. Even the controls, both on board and remote for wall installation, have been completely redesigned to perfectly match our focus on design.

Moreover each version has the same internal structure, identical in both horizontal and vertical models, in order to standardize production and guarantee a greater flexibility in distribution and installation.

The fan coils are available with every kind of accessories and controls to meet all electronic and installation needs.

This fan coil, based on a traditional technology, offers excellent environmental comfort.

Quick selection

Cooling

Entering air temperature: 27°C dry bulb - 19°C wet bulb

Entering water temperature: 7°C, Δt 5°C

Size	Speed	Air flow, m ³ /h	Cooling, kW	Sound pressure, Lp dB (A)
QZM-13	3	300	1.50	41
QZM-14	3	300	1.80	42
QZM-23	3	450	2.50	43
QZM-24	3	450	2.80	45
QZM-33	3	600	3.50	42
QZM-34	3	600	3.90	42
QZM-43	3	750	4.00	45
QZM-44	3	750	4.60	45
QZM-53	3	1000	4.80	49
QZM-54	3	1000	5.70	49
QZM-63	3	1200	5.95	51
QZM-64	3	1200	6.60	51
QZM-73	3	1400	6.70	56
QZM-74	3	1400	7.50	56

Properties

Fan Coil Unit QZM

7 sizes from 10 to 70 (Q = 190 - 1400m³/h & P = 1.1 - 7.5 kW).

2-pipe system - 3 or 4 rows (cooling or heating).

4-pipe system - 1 additional row for heating.

4 versions (A. F. M. T) to cover all general fan coil applications.

Innovative design.

Low noise level.

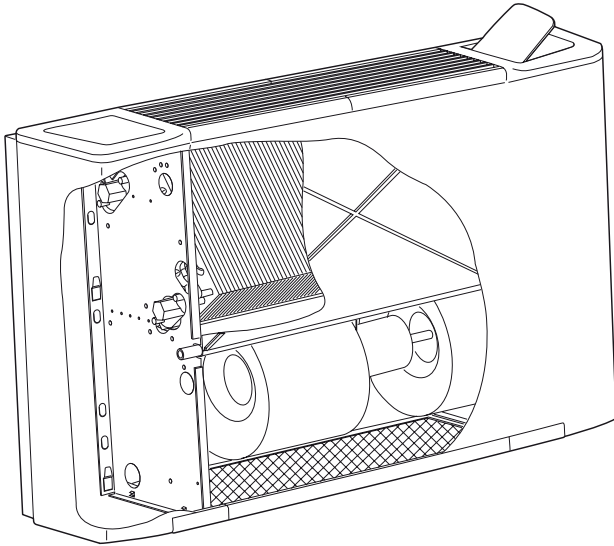
Easy to assemble, use and maintain.

Product code example

Fan Coil Unit QZM

QZMF-34-1-2-1-03

QZM "Classic" fan coil unit – Description



Decorative cabinet

Made of galvanized and prepainted steel casing. The plastic top grid has fixed louvres and is reversible in order to distribute the air in two different directions.

Standard colours:

- top grid: Pantone 427C (light grey)
- frontal sheet: RAL 9003 (white)
- other colours on request.

Basic unit

Made of galvanized steel with closed cell insulation.

Filter

The filtration medium is a washable synthetic fibre. efficiency of 73% and the filter frame is made of galvanized steel. Special plastic sliding guides allow for easy insertion and removal of the filter.

Fandeck

The fans have aluminium blades directly keyed on the motor with double aspiration and they are dynamically and statically balanced during manufacture in order to have an extremely silent operation.

Motor

The motor is wired for single-phase where three out of four or six speeds are connected.

The motor is fitted on sealed for life bearings and is secured on antivibration and self-lubricating mountings, Protection IP 21, insulation class B.

Heat exchanger

It is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process.

The coil has two 1/2 inch BSP internal connections and 1/8 inch BSP air vent and drain.

Flow and return pipe connections are situated at the same end on the left or right side looking into the air outlet of the unit.

This must be specified on the order but are also easily reversible on site.

Drip tray

Made from plastic with an "L" shape fitted on the inner casing. The outside diameter of the condensate discharge pipe is 15 mm.

Nominal performances - QZM



2-pipe units

Cooling

Entering air temperature: 27°C dry bulb - 19°C wet bulb
Entering water temperature: 7°C, Δt 5°C

Heating

Entering air temperature: 20°C
Entering water temperature: 50°C
Same water flow rate as for the cooling

SIZE	QZM-13			QZM-23			QZM-33			QZM-43			QZM-53			QZM-63			QZM-73		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Speed	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Air flow m ³ /h	190	240	300	290	360	450	380	480	600	480	600	750	650	800	1000	750	950	1200	850	1100	1400
Total Cooling kW	1.10	1.30	1.50	1.80	2.15	2.50	2.47	2.90	3.50	2.90	3.44	4.00	3.60	4.15	4.80	4.30	5.08	5.95	4.75	5.70	6.70
Sensible Cooling kW	0.83	1.00	1.25	1.39	1.68	2.10	1.95	2.35	2.95	2.21	2.68	3.35	2.67	3.24	4.05	3.30	4.00	5.00	3.76	4.56	5.70
Heating kW	1.40	1.70	2.06	2.30	2.70	3.30	3.00	3.70	4.45	3.65	4.35	5.20	4.70	5.50	6.50	5.50	6.70	8.00	6.21	7.50	9.07
Δ_p Cooling kPa	2.6	3.5	4.6	7.9	10.6	14.1	7.0	9.7	12.9	10.0	13.5	17.9	16.8	18.2	27.8	12.0	16.0	21.1	16.6	22.6	29.7
Δ_p Heating kPa	2.1	2.9	3.8	6.5	8.6	11.4	6.0	8.2	11.0	8.2	11.0	14.5	14.1	18.1	23.4	10.4	14.1	18.4	14.6	19.7	25.8
Fan W	20	30	40	45	50	60	60	80	95	65	80	95	65	85	125	120	145	180	135	170	190
Sound power	40	45	50	42	47	52	35	42	51	41	47	54	44	50	58	51	56	60	54	60	65
Sound pressure	31	36	41	33	38	43	26	33	42	32	38	45	35	41	49	42	47	51	45	51	56

SIZE	QZM-14			QZM-24			QZM-34			QZM-44			QZM-54			QZM-64			QZM-74		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Speed	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Air flow m ³ /h	190	240	300	290	360	450	380	480	600	480	600	750	650	800	1000	750	950	1200	850	1100	1400
Total Cooling kW	1.30	1.50	1.80	2.00	2.40	2.80	2.70	3.30	3.90	3.20	3.90	4.60	4.20	4.80	5.70	4.60	5.50	6.60	5.20	6.30	7.50
Sensible Cooling kW	0.98	1.19	1.48	1.43	1.75	2.17	2.05	2.49	3.10	2.51	3.05	3.80	3.17	3.85	4.80	3.64	4.40	5.50	4.16	4.80	6.30
Heating kW	1.60	1.95	2.30	2.50	3.00	3.50	3.20	4.00	4.80	4.00	4.80	5.80	5.20	6.20	7.40	6.00	7.30	8.80	6.70	8.30	10.10
Δ_p Cooling kPa	7.0	9.8	13.1	13.1	18.0	24.7	8.7	12.4	17.0	7.4	10.0	13.6	11.8	15.6	20.7	8.0	11.0	15.0	10.1	14.4	19.6
Δ_p Heating kPa	3.7	5.2	7.0	11.2	15.1	21.1	7.3	10.3	14.1	6.0	8.2	11.1	9.6	11.6	16.8	7.9	10.7	14.2	10.4	14.0	18.0
Fan W	20	30	50	45	50	60	60	80	95	65	80	95	65	85	125	120	145	180	135	170	190
Sound power	40	45	51	43	50	54	40	45	51	43	47	54	44	50	58	49	55	60	54	60	65
Sound pressure	31	36	42	34	41	45	31	36	42	34	38	45	35	41	49	40	46	51	45	51	56

4-pipe units

Cooling

Entering air temperature: 27°C dry bulb - 19°C wet bulb
Entering water temperature: 7°C, Δt 5°C

Heating

Entering air temperature: 20°C
Entering water temperature: 70°C, Δt 10°C

SIZE	QZM-13			QZM-23			QZM-33			QZM-43			QZM-53			QZM-63			QZM-73		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Speed	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Air flow m ³ /h	190	240	300	290	360	450	380	480	600	480	600	750	650	800	1000	750	950	1200	850	1100	1400
Total Cooling kW	1.10	1.30	1.50	1.80	2.15	2.50	2.47	2.90	3.50	2.90	3.44	4.00	3.60	4.15	4.80	4.30	5.08	5.95	4.47	5.37	6.31
Sensible Cooling kW	0.83	1.00	1.25	1.39	1.68	2.10	1.95	2.35	2.95	2.21	2.68	3.35	2.67	3.24	4.05	3.30	4.00	5.00	3.60	4.30	5.40
Heating kW	1.25	1.35	1.75	2.05	2.35	2.70	2.65	3.10	3.60	2.93	3.31	3.69	3.90	4.50	5.30	4.20	5.00	5.50	4.60	5.40	6.10
Δ_p Cooling kPa	3.2	4.3	5.7	7.9	10.6	14.1	6.0	8.3	11.1	10.0	13.5	17.9	14.2	18.2	23.5	13.0	17.2	22.7	13.7	18.6	24.4
Δ_p Heating kPa	2.2	2.8	3.7	5.3	6.7	8.6	2.4	3.2	4.3	2.3	2.9	3.7	4.7	6.9	8.8	4.7	6.2	7.6	5.9	7.7	9.6
Fan W	25	37	49	45	50	60	60	80	95	65	80	95	75	98	144	120	145	180	135	170	190
Sound power	40	45	51	42	50	54	35	42	51	45	48	54	48	54	59	49	55	60	55	62	66
Sound pressure	31	36	42	33	41	45	26	33	42	36	39	45	39	45	50	40	46	51	46	53	57

Sound data are measured in dB(A). Sound pressure levels are valid for a room of 100 m³ and a reverberation time of 0.5 sec.

Above data are based on Eurovent conditions.

Technical data - QZM

Operation limits

Highest water inlet temperature	+85°C
Lowest water inlet temperature	+ 5°C
Highest working pressure	8 bar

Note: For QZMF version the maximum installation height is 2.8 m. On heating it must be payed attention to rooms where the floor temperature is particularly low (for example less than 5°C). In this situation the floor can cool the lower layer of air to a level that can stop the uniform diffusion of the hot air coming from the unit.

Water flow limits for 3 row coil (l/h)

2-pipe units

Size	QZM-13	QZM-23	QZM-33	QZM-43	QZM-53	QZM-63	QZM-73
Lowest	100	150	150	200	250	300	400
Highest	500	750	1000	1000	1500	2000	2000

Water flow limits for 4 row coil (l/h)

2-pipe units

Size	QZM-14	QZM-24	QZM-34	QZM-44	QZM-54	QZM-64	QZM-74
Lowest	100	150	200	250	300	400	450
Highest	750	1000	1000	1500	2000	2000	2250

Water flow limits for 1 row heating coil (l/h)

4-pipe units

Size	QZM 13/14	QZM 23/24	QZM 33/34	QZM 43/44	QZM 53/54	QZM 63/64	QZM 73/74
Lowest	60	80	100	130	160	180	200
Highest	250	350	450	500	650	700	750

Motor characteristics

Size		QZM 13/14	QZM 23/24	QZM 33/34	QZM 43/44	QZM 53/54	QZM 63/64	QZM 73/74
230/1 50Hz	W	53	64	79	98	170	190	310
	A	0.23	0.28	0.36	0.44	0.74	0.84	1.40

Capacity (k) and air flow (Q) correction factors at high speed in accordance to the requested available pressure (Δp).

Size		QZM 13/14	QZM 23/24	QZM 33/34	QZM 43/44	QZM 53/54	QZM 63/64	QZM 73/74
ΔP 10 Pa	Q=m ³ /h	270	400	530	680	900	1130	1300
	(W) · k	0.95	0.94	0.94	0.95	0.96	0.96	0.97
ΔP 20 Pa	Q=m ³ /h	230	340	450	580	800	1030	1180
	(W) · k	0.87	0.86	0.85	0.88	0.91	0.91	0.92
ΔP 30 Pa	Q=m ³ /h	170	280	390	500	700	950	1090
	(W) · k	0.75	0.79	0.80	0.81	0.85	0.87	0.87

Cooling selection tables – QZM

Cooling capacity – 3 row coil – 2-pipe units

Entering air temperature: 27°C dry bulb - 19°C wet bulb

Size	Speed	Air flow m ³ /h m ³ /sec.	EWT 5 - LWT 10°C			EWT 7 - LWT 12°C			EWT 12 - LWT 17°C		
			Water flow l/h	Capacity		Water flow l/h	Capacity		Water flow l/h	Capacity	
				Tot. Watt	Sen. Watt		Tot. Watt	Sen. Watt		Tot. Watt	Sen. Watt
QZM - 13	High	300 0.08	330	1900	1500	260	1500	1250	140	820	820
	Medium	240 0.07	280	1620	1200	225	1300	1000	120	700	700
	Low	190 0.05	235	1370	990	190	1100	830	100	590	590
QZM - 23	High	450 0.12	550	3200	2500	430	2500	2100	235	1360	1360
	Medium	360 0.10	470	2720	2000	370	2150	1680	200	1160	1160
	Low	290 0.08	400	2300	1650	310	1800	1390	170	980	980
QZM - 33	High	600 0.17	780	4500	3550	605	3500	2950	330	1900	1900
	Medium	480 0.13	660	3830	2840	500	2900	2350	280	1620	1620
	Low	380 0.10	560	3240	2340	425	2470	1950	235	1370	1370
QZM - 43	High	750 0.21	880	5100	4050	690	4000	3350	380	2200	2200
	Medium	600 0.17	750	4340	3240	595	3440	2680	325	1870	1870
	Low	480 0.13	635	3670	2670	500	2900	2210	275	1580	1580
QZM - 53	High	1000 0.28	1060	6150	4900	830	4800	4050	450	2600	2600
	Medium	800 0.22	905	5230	3920	720	4150	3240	380	2210	2210
	Low	650 0.18	765	4430	3230	620	3600	2670	325	1870	1870
QZM - 63	High	1200 0.33	1330	7700	6000	1030	5950	5000	560	3250	3250
	Medium	950 0.26	1130	6550	4800	880	5080	4000	475	2760	2760
	Low	750 0.21	960	5540	3960	745	4300	3300	405	2340	2340
QZM - 73	High	1400 0.39	1505	8700	6800	1160	6310	5700	640	3700	3700
	Medium	1100 0.31	1280	7400	5440	985	5370	4560	545	3150	3150
	Low	850 0.24	1080	6260	4490	820	4470	3760	460	2660	2660

Correction factors
for different entering
air temperatures

E.A.T. C°	K
28/20	1.14
26/18.5	0.93
25/18	0.84

EAT = Entering air temperature

EWT = Entering water temperature

LWT = Leaving water temperature

Other selections are available from our computer program. Ask your local sales representative.
The cooling selection tables are valid for both systems (2- and 4-pipe)

Cooling selection tables - QZM

Cooling capacity - 4 row coil - 2-pipe units

Entering air temperature: 27°C dry bulb - 19°C wet bulb

Size	Speed	Air flow m ³ /h m ³ /sec.	EWT 5 - LWT 10 °C			EWT 7 - LWT 12 °C			EWT 12 - LWT 17 °C		
			Water flow l/h	Capacity		Water flow l/h	Capacity		Water flow l/h	Capacity	
				Tot. Watt	Sen. Watt		Tot. Watt	Sen. Watt		Tot. Watt	Sen. Watt
QZM - 14	High	300 0.08	400	2300	1780	310	1800	1480	170	980	980
	Medium	240 0.07	335	1950	1430	260	1500	1190	145	830	830
	Low	190 0.05	285	1650	1180	225	1300	980	120	700	700
QZM - 24	High	450 0.12	620	3600	2800	485	2800	2170	265	1540	1540
	Medium	360 0.10	530	3050	2250	415	2400	1750	225	1310	1310
	Low	290 0.08	450	2590	1850	345	2000	1430	190	1100	1100
QZM - 34	High	600 0.17	865	5000	3700	675	3900	3100	360	2100	2100
	Medium	480 0.13	735	4250	2970	570	3300	2490	310	1780	1780
	Low	380 0.10	620	3600	2450	465	2700	2050	260	1500	1500
QZM - 44	High	750 0.21	1000	5800	4500	795	4600	3800	430	2500	2500
	Medium	600 0.17	850	4930	3600	675	3900	3050	365	2120	2120
	Low	480 0.13	720	4170	2980	550	3200	2510	310	1800	1800
QZM - 54	High	1000 0.28	1245	7200	5700	985	5700	4800	535	3100	3100
	Medium	800 0.22	1060	6120	4570	830	4800	3850	455	2630	2630
	Low	650 0.18	895	5180	3770	725	4200	3170	380	2230	2230
QZM - 64	High	1200 0.33	1450	8400	6600	1140	6600	5500	620	3600	3600
	Medium	950 0.26	1235	7140	5300	950	5500	4400	530	3060	3060
	Low	750 0.21	1045	6050	4360	795	4600	3640	450	2590	2590
QZM - 74	High	1400 0.39	1660	9600	7600	1295	7500	6300	710	4100	4100
	Medium	1100 0.31	1410	8160	6100	1090	6300	4800	600	3480	3480
	Low	850 0.24	1195	6910	5030	900	5200	4160	510	2950	2950

Correction factors
for different entering
air temperatures

E.A.T. C°	K
28/20	1.14
26/18.5	0.93
25/18	0.84

EAT = Entering air temperature
EWT = Entering water temperature
LWT = Leaving water temperature

Other selections are available from our computer program. Ask your local sales representative.
The cooling selection tables are valid for both systems (2- and 4-pipe)

Heating selection tables – QZM

Heating capacity – 2-pipe units

Entering air temperature: 20°C

Size	Speed	Air flow	x = 3 row coil						x = 4 row coil					
		m ³ /h	EWT 50 - LWT 40 °C		EWT 70 - LWT 60 °C		EWT 85 - LWT 75 °C		EWT 50 - LWT 40 °C		EWT 70 - LWT 60 °C		EWT 85 - LWT 75 °C	
		m ³ /sec.	Water flow l/h	Capacity Wátt	Water flow l/h	Capacity Wátt	Water flow l/h	Capacity Wátt	Water flow l/h	Capacity Wátt	Water flow l/h	Capacity Wátt	Water flow l/h	Capacity Wátt
1x	High	300 0.08	155	1800	310	3600	405	4700	180	2050	345	4000	450	5200
	Medium	240 0.07	130	1500	260	3000	335	3900	155	1800	295	3400	380	4400
	Low	190 0.05	110	1300	215	2500	285	3300	120	1400	240	2800	310	3600
2x	High	450 0.12	260	3000	500	5800	660	7600	270	3100	530	6100	690	8000
	Medium	360 0.10	210	2400	405	4700	525	6100	235	2700	460	5300	595	6900
	Low	290 0.08	180	2100	345	4000	450	5200	200	2300	380	4400	490	5700
3x	High	600 0.17	345	4000	675	7800	890	10300	375	4350	725	8400	950	11000
	Medium	480 0.13	285	3300	560	6500	735	8500	310	3600	605	7000	785	9100
	Low	380 0.10	235	2700	460	5300	595	6900	250	2900	485	5600	630	7300
4x	High	750 0.21	405	4700	785	9100	1040	12000	450	5200	875	10100	1150	13300
	Medium	600 0.17	335	3900	655	7600	855	9900	370	4300	725	8400	940	10900
	Low	480 0.13	285	3300	555	6400	715	8300	310	3600	605	7000	785	9100
5x	High	1000 0.28	520	6000	1000	11600	1320	15300	570	6600	1115	12900	1460	16900
	Medium	800 0.22	430	5000	830	9600	1080	12500	485	5600	940	10900	1230	14200
	Low	650 0.18	365	4200	710	8200	925	10700	405	4700	785	9100	1020	11800
6x	High	1200 0.33	620	7200	1210	14000	1590	18400	685	7900	1330	15400	1745	20200
	Medium	950 0.26	520	6000	1010	11700	1315	15200	570	6600	1105	12800	1435	16600
	Low	750 0.21	430	5000	830	9600	1080	12500	470	5400	910	10500	1185	13700
7x	High	1400 0.39	710	8200	1375	15900	1800	20800	785	9050	1520	17600	1990	23000
	Medium	1100 0.31	590	6800	1130	13100	1470	17000	650	7500	1255	14500	1635	18900
	Low	850 0.24	485	5600	940	10900	1225	14200	520	6000	1010	11700	1315	15200

x = 3 or 4 row coil

Correction factors for different entering air temperatures

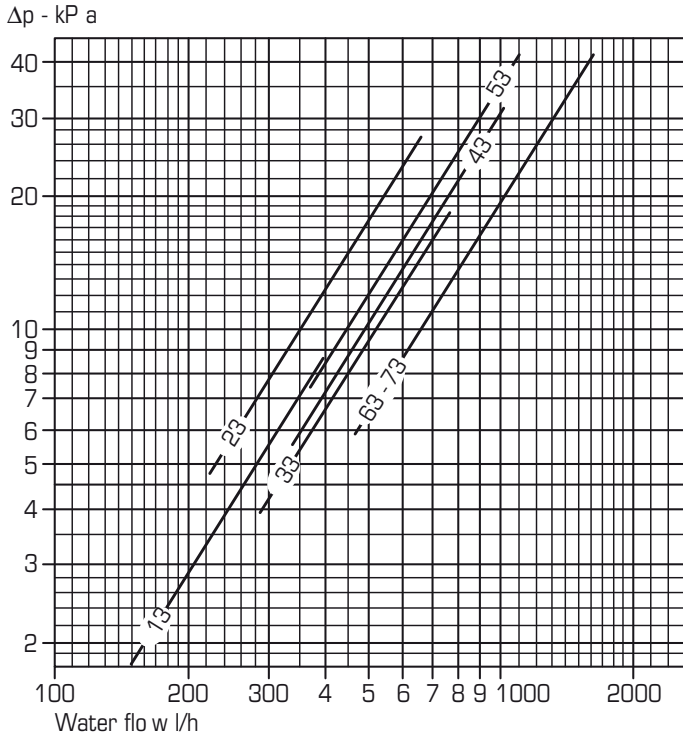
W.T. C°	E.A.T. C°			
	22	18	16	14
50/40	0.91	1.09	1.15	1.23
70/60	0.95	1.05	1.09	1.13
85/75	0.96	1.04	1.07	1.11

Other selections are available from our computer program. Ask your local sales representative.

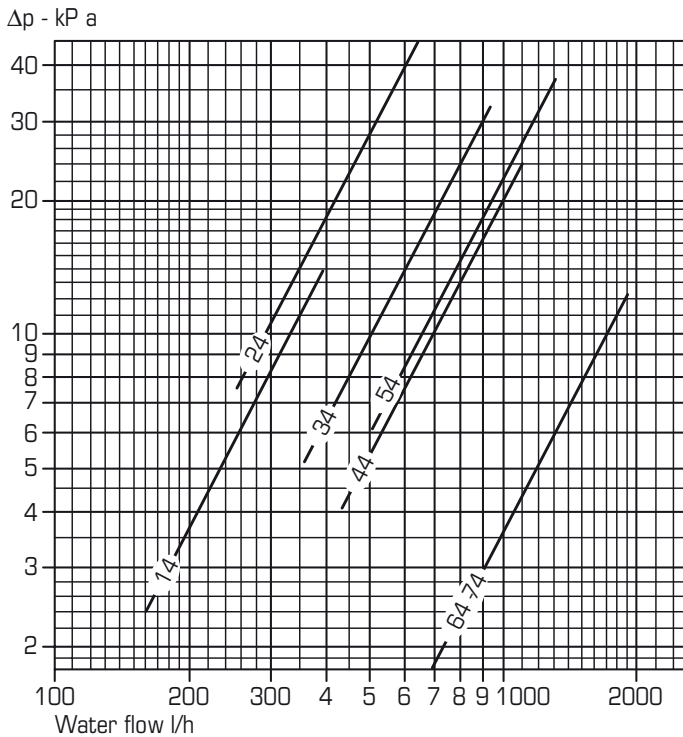
EWT = Entering water temperature, LWT = Leaving water temperature, WT = Water temperature, EAT = Entering air temperature.

Water pressure drop - QZM

QZM - 3 row coil



QZM - 4 row coil



The water pressure drop figures refer to a mean water temperature of 10°C. for different temperature. multiply the pressure drop figures by the correction factors K.

°C	K
20	0.94
30	0.90
40	0.86
50	0.82
60	0.78
70	0.74
80	0.70

Heating selection tables – QZM

Heating capacity – 1 row heating coil – 4-pipe units

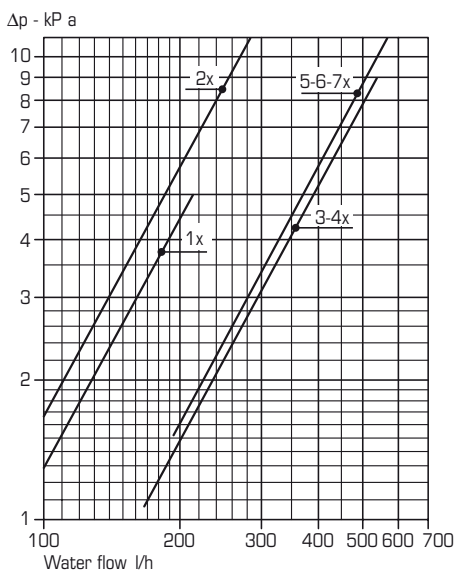
Entering air temperature: 20°C

Size	Speed	Air flow m ³ /h m ³ /sec.	EWT 50 - LWT 40 °C		EWT 70 - LWT 60 °C		EWT 85 - LWT 75 °C	
			Water flow l/h	Capacity W	Water flow l/h	Capacity W	Water flow l/h	Capacity W
1x	High	300 0.08	80	900	150	1750	200	2300
	Medium	240 0.07	60	700	120	1350	155	1800
	Lo w	190 0.05	55	650	110	1250	140	1600
2x	High	450 0.12	120	1400	235	2700	305	3500
	Medium	360 0.10	105	1200	205	2350	265	3060
	Lo w	290 0.08	90	1050	180	2050	230	2650
3x	High	600 0.17	160	1850	310	3600	405	4700
	Medium	480 0.13	140	1600	270	3100	345	4000
	Lo w	380 0.10	120	1400	230	2650	300	3450
4x	High	750 0.21	175	2000	315	3690	445	5150
	Medium	600 0.17	155	1800	285	3310	395	4550
	Lo w	480 0.13	140	1600	250	2930	350	4050
5x	High	1000 0.28	240	2750	460	5300	595	6900
	Medium	800 0.22	205	2350	390	4500	505	5850
	Lo w	650 0.18	175	2000	340	3900	435	5050
6x	High	1200 0.33	245	2850	475	5500	625	7200
	Medium	950 0.26	225	2600	435	5000	565	6500
	Lo w	750 0.21	190	2200	365	4200	470	5450
7x	High	1400 0.39	275	3150	530	6100	690	8000
	Medium	1100 0.31	240	2800	470	5400	605	7000
	Lo w	850 0.24	210	2400	400	4600	520	6000

Correction factors for different entering air temperatures

W.T. °C	E. A. T. °C			
	22	18	16	14
50/40	0.91	1.09	1.15	1.23
70/60	0.95	1.05	1.09	1.13
85/75	0.96	1.04	1.07	1.11

Water pressure drop - 1 row heating coil



x = 3 or 4 row coil

QZM

The water pressure drop figures refer to a mean water temperature of 65°C; for different temperatures, multiply the pressure drop figures by the correction factors K.

tm °C	K
40	1.14
50	1.08
60	1.02
70	0.96
80	0.90

Other selections are available from our computer program. Ask your local sales representative.

EWT = Entering water temperature, LWT = Leaving water temperature, WT = Water temperature, EAT = Entering air temperature.

Acoustic data

Often sound levels are the key influencing factor in the selection of equipment. The notion sound power is often confused with the notion sound pressure. The two notions can be defined as follows :

Sound power (Lw)



Sound power is the output required producing sound pressure waves. It is not, as such, directly measurable. Sound power is established by measuring the sound pressure on the inner surface of a sphere placed around the source. It is measured and stated in Watts. Sound power is therefore a measurement, which is not dependent on area or distance, and it is used as a basis for all acoustic data.

Sound pressure (Lp)

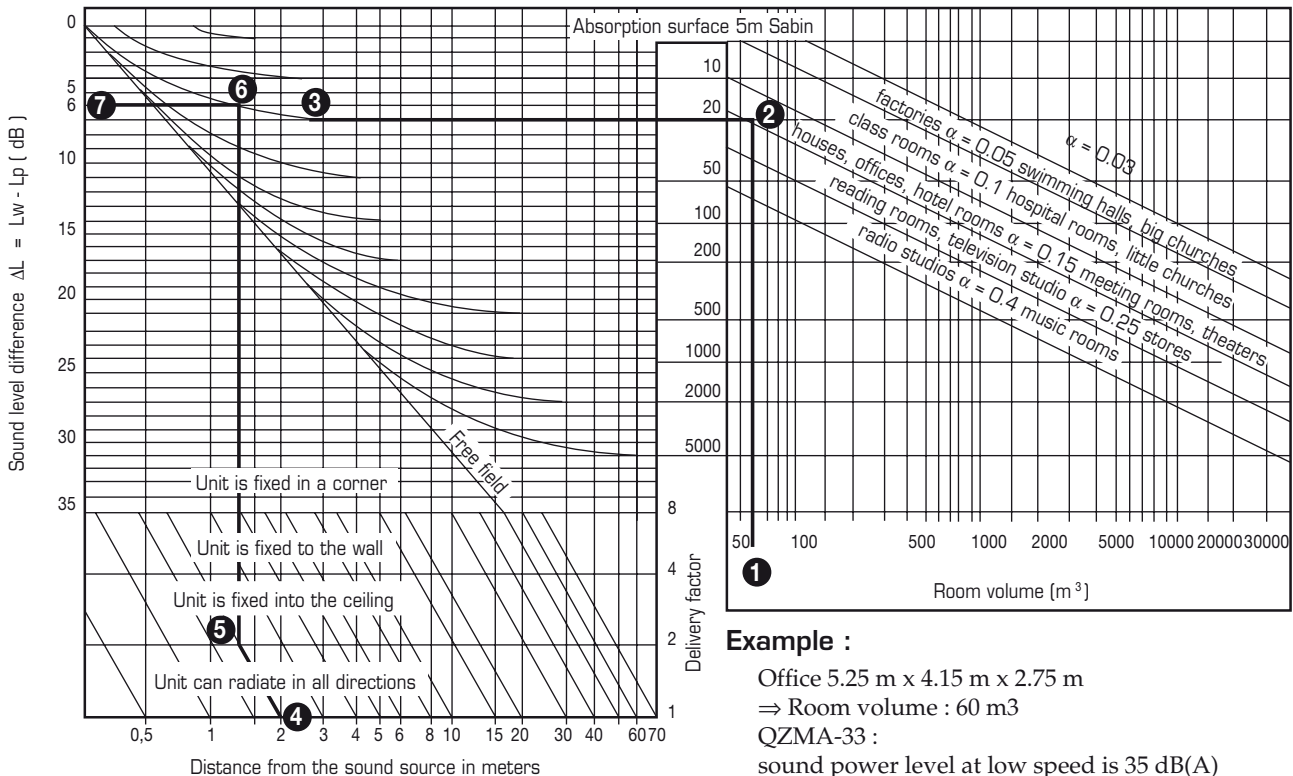
This is the alternating pressure produced by waves from a sound source. It is a measure of the noise level or noise intensity. Sound pressure is dependent on the average absorption factor of the room, distance from the sound source, the position of the unit in the room. the occupation and is therefore not suitable for calculations of sound propagation or spread.



An explanatory example :

The sound power level can be compared with the heating capacity of a boiler. This capacity will remain the same regardless of the thermal characteristics of the installation. The sound pressure level can be compared with the temperature obtained in a room supplied from the boiler. Obviously, the temperature will vary depending upon the room characteristics and so it is with sound pressure. Therefore, accurate comparisons between competing equipment should always be made, in the case of the boiler, by comparing boiler capacity and in case of fan coil units by comparing the sound power levels.

Conversion : Sound power level dB(A) ⇒ Sound pressure level dB(A)

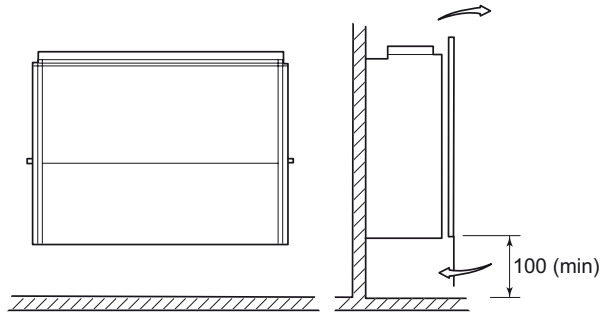


Example :

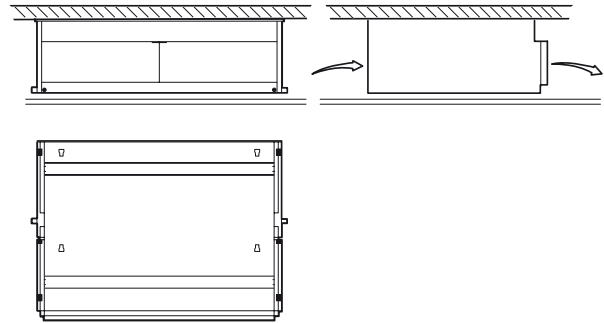
Office 5.25 m x 4.15 m x 2.75 m
 ⇒ Room volume : 60 m³
 QZMA-33 :
 sound power level at low speed is 35 dB(A)
 Absorption factor α : 0.15
 Distance from the source : 2 m
 Direction factor : 2
 ΔL : 6 dB
 Sound pressure level : $L_p = L_w(A) - \Delta L$
 $L_p = 35 - 6 = 29 \text{ dB(A)}$

Models of the "Classic" fan coil unit

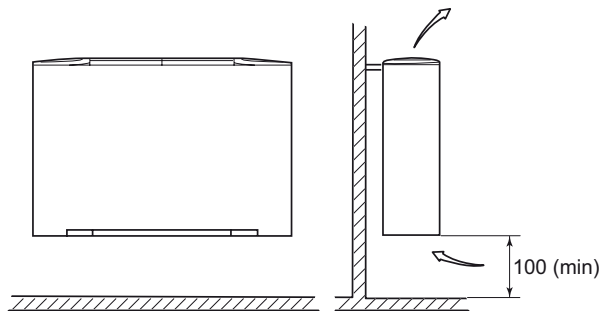
Version QZMA
concealed model in a vertical application



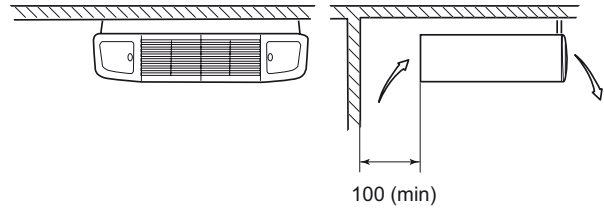
Version QZMA
concealed model in a horizontal application



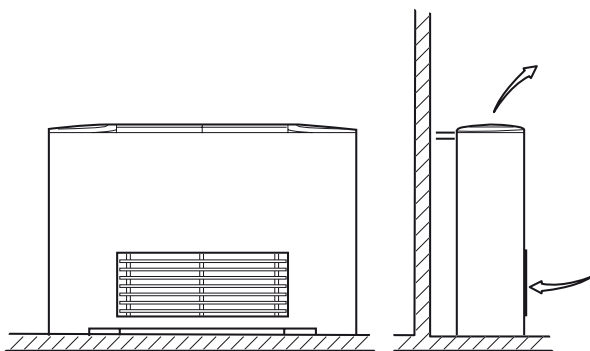
Version QZMF
exposed model in a vertical application



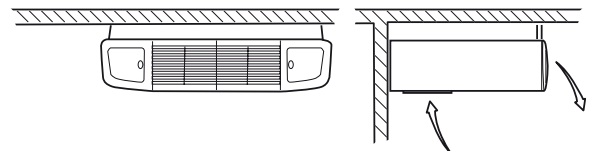
Version QZMF
exposed model in a horizontal application



Version QZMM
Vertical exposed model
with front air intake



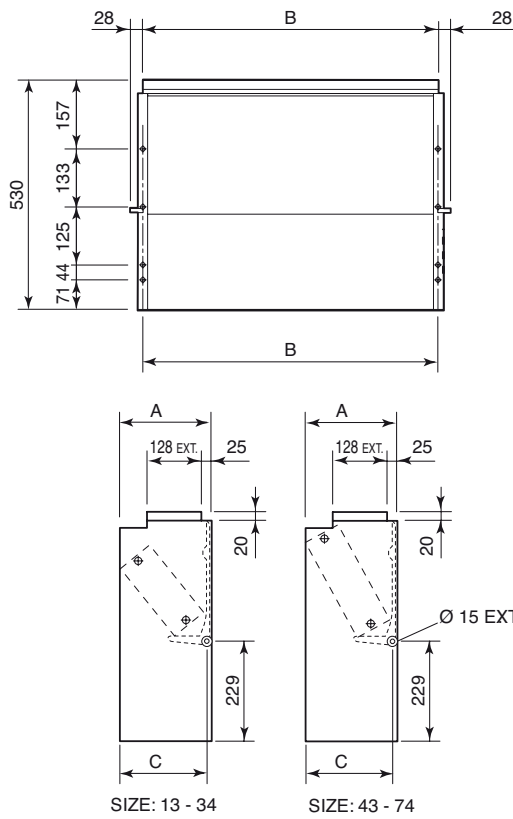
Version QZMT
Horizontal exposed model
with underside air intake



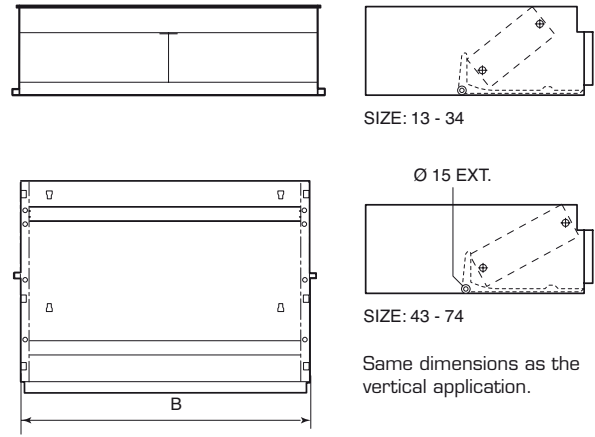
Note:
to connect vertical exposed model units to wall remote controls, use the terminal board adaptor kit QZMZ-01-02.

Dimensions of the "Classic" fan coil unit

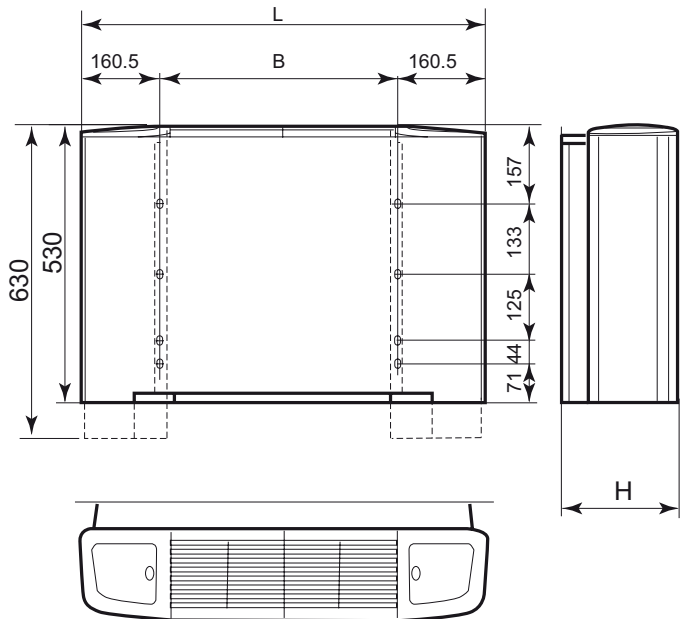
Version QZMA - vertical application



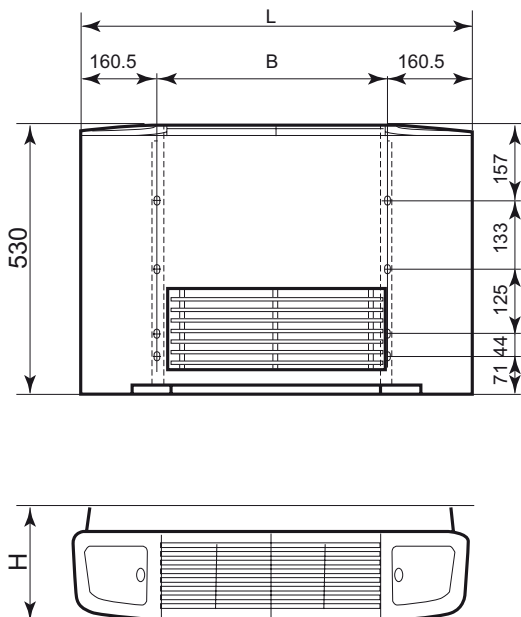
Version QZMA - horizontal application



Version QZMF
vertical and horizontal application



Version QZMM - vertical application
Version QZMT - horizontal application



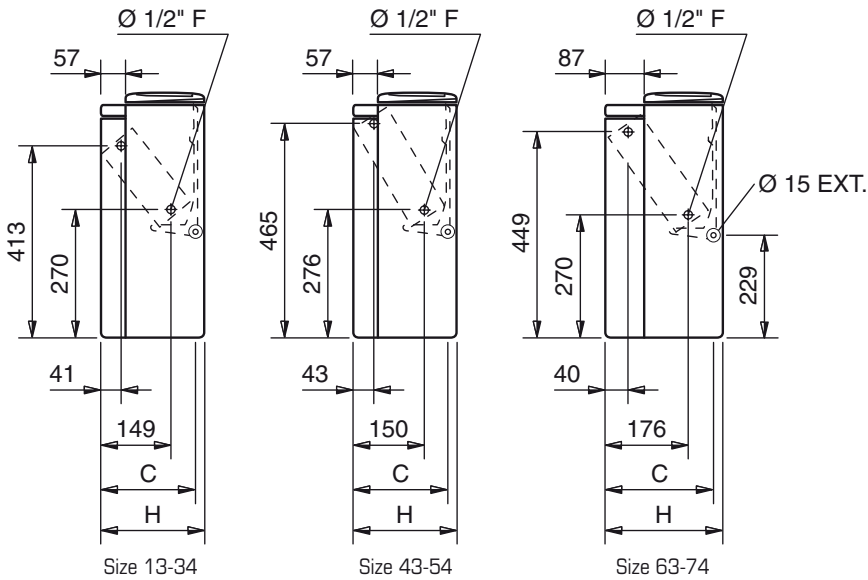
Dimensions and weights

Size	A	B	L	H	C	V. l ¹⁾	W. kg
13	218	454	775	225	206	0.6	14
14	218	454	775	225	206	0.8	16
23	218	669	990	225	206	0.9	18
24	218	669	990	255	206	1.3	21
33	218	884	1205	225	206	1.3	21
34	218	884	1205	255	206	1.7	24
43	218	884	1205	225	206	1.6	22
44	218	884	1205	255	206	2.2	25
53	218	1099	1420	225	206	1.7	26
54	218	1099	1420	225	206	2.4	30
63	248	1099	1420	255	236	1.9	35
64	248	1099	1420	255	236	2.8	41
73	248	1099	1420	255	236	1.9	36
74	248	1099	1420	255	236	2.8	42

¹⁾ Coil water contents (Litres)

Water connections

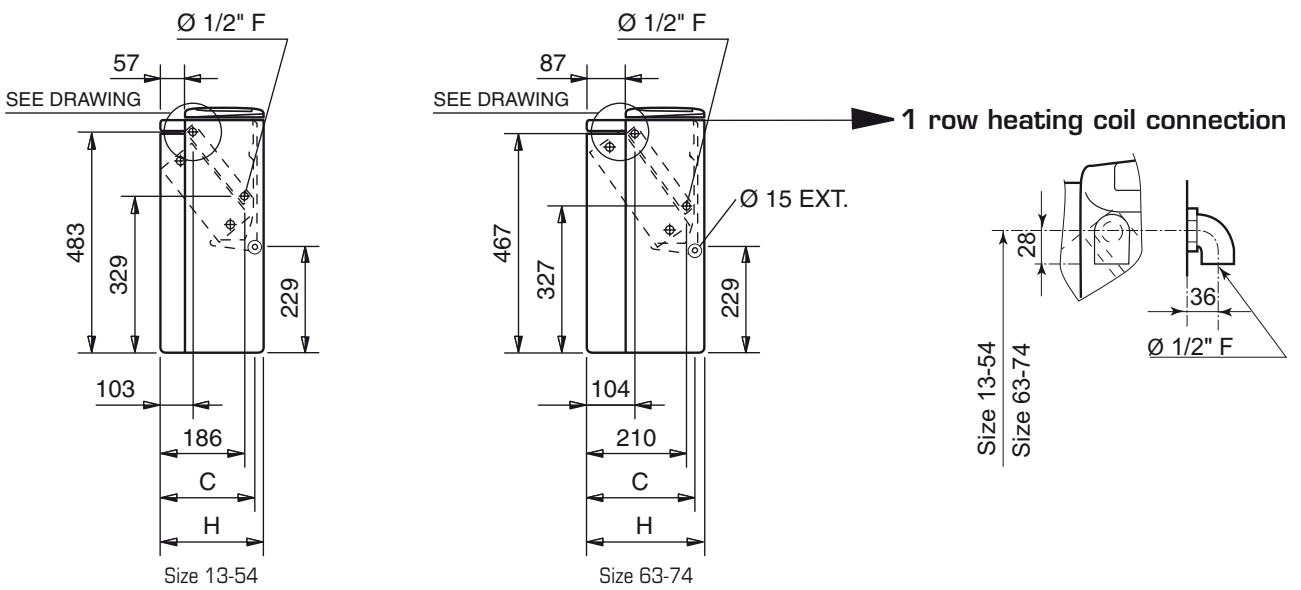
2-pipe units
3 or 4 row coil for cooling or heating



Dimensions

Size	H	C
13	225	206
14	225	206
23	225	206
24	255	206
33	225	206
34	255	206
43	225	206
44	255	206
53	255	206
54	255	206
63	255	236
64	255	236
73	255	236
74	255	236

4-pipe units
1 row supplementary heating coil



Practical guidelines

Precautions to be taken before and during installation

- Units are carefully inspected and tested prior to delivery.
- The water system must be carefully designed and balanced if the fan coil system is to perform correctly.
- The units should be installed in such a way to allow easy access for maintenance and adjustments.
- It is important that the unit is placed level or slopes slightly towards the condensate drain side.
- Sufficient slope of the drain system shall be assured for a quick condensate removal = 2 % (min. 2 cm/m).
- The inlet water connections for cooling and heating are always the lower of the coil connection.
- Although units equipped with water control valves have been carefully checked at the factory, it is advisable to check the tightness of all pipe connections on site using a spanner.
- Make sure that the condensate will drain off freely.
- Do not connect the drain system directly to the drainpipe of the main driptray but use the drainpipe of the auxiliary driptray for the evacuation of the condensate.
- It is recommended to seal the joint between the unit and the auxiliary driptray with a sealer.
- The distance between the air intake side and the floor or wall should be minimum 100 mm.
- Make sure that no shelving or furniture obstructs free air circulation.
- Dispose of packaging material in accordance with local requirements.

Electrical connections

- All motors are tested prior to delivery.
- The voltage of the motor is stated on the identification label of each unit.
- The electrical wiring of the units should be done by an authorised electrician in accordance with the local regulations.
- The electrical heating elements must only be factory installed.
- The electrical installation should be of permanent type and the unit protected by means of fuses in the power supply from the mains.
- Incorrect field wiring will cause motor damage.
- Always use the same power supply circuit for the fan coil system (fan coil units, thermostats. etc. ..)
- Do not connect more than one fan coil unit to one common speed selector switch.
- In master/slave applications, check carefully the equipotentiality of the electrical connections.

Control system

- When the fans are not running, it is strongly advisable to ensure that the chilled water supply to the coils is automatically shut off, to prevent condensation in and on the unit.
- Units equipped with electrical heating elements must be connected to a regulation with permanent ventilation.

Starting-up

- Check that the coils have been cleaned after the installation work.
- Check the water system and open the valves for the water supply.
- Check that the water connections do not leak.
- Open the venting screws and check that there is no air in the coils.
- Equalisation of the pressure drop across the whole water system is recommended.
- Check that the fan impeller rotates freely and in the correct direction.
- Run the fan at high, medium and low speed and check that no mechanical noise can be heard.
- Check that the unit is well secured and does not vibrate.
- Check the performance of the supervisory system.

Maintenance

- ! Before performing any service or maintenance operations, turn OFF the main power supply.
- Inspect the unit at regular intervals.
- The frequency of cleaning the coil and the driptray depend on local conditions.
- The coil should be cleaned on both sides. Use a vacuum cleaner with a rubber nozzle.
- Work carefully to avoid damaging the coil surfaces.
- Check that the drainpipe is clean and not clogged.
- The motor bearings are permanently lubricated and do not require lubrication.
- The standard filters are of the washable type and should be cleaned when clogged.
- Check min. once a month the filter – final pressure drop is recommended up to 25 Pa.
- The frequency of filter cleaning or replacement is dependent on the dust content in the return air, (our recommendation : Max. 1 month after starting-up period and further min. every 3 months)

WARNING !!

- ! The cooling and heating output of the unit will be reduced if the unit is running with clogged filters.
- ! Unit mounted electrical heating elements can influence the sound level of the units.
- ! Dirty/clogged filters will increase the sound level and are harmful to the operation and working-expenses of the units.
- ! Prolonged operation with a dirty / clogged filter may lead to deterioration of the motor.
- ! To avoid breaks caused by ice, please empty the water-circuit when the roomtemperature goes down to 0 °C.

Accessories for QZM

Electrostatic filter. for hygienic applications

With this filter the various stages of air treatment are combined in one appliance.

Thanks to this new patented filter. air pollutants such as cigarette smoke. dust. pollen and most biological organisms are eliminated.

In addition. as fresh air is not being introduced to obtain the best climatic conditions. there are consequential energy savings.

The electronic filtering system consists of two parts: the first is a plate type electronic active filter and is fitted in the inlet section of the fan coil, while the second is an electronic control and regulation board. All electrical connections are made during production.

This patented filter works on the electrostatic principle that electric charges of opposite polarity attract each other. When crossing the first filter section the particles in the air pass through an electric field which gives them a positive charge. In the second filter section the particles are attracted and adhere to the filter plates which have a negative electrostatic charge. In this way while passing through the filter the air is cleaned and any impurity is removed. Then the smallest particles ($50 \div 0.01 \mu\text{m}$) are exposed to an intensive ionic field and are polarized.

(Phase 2)

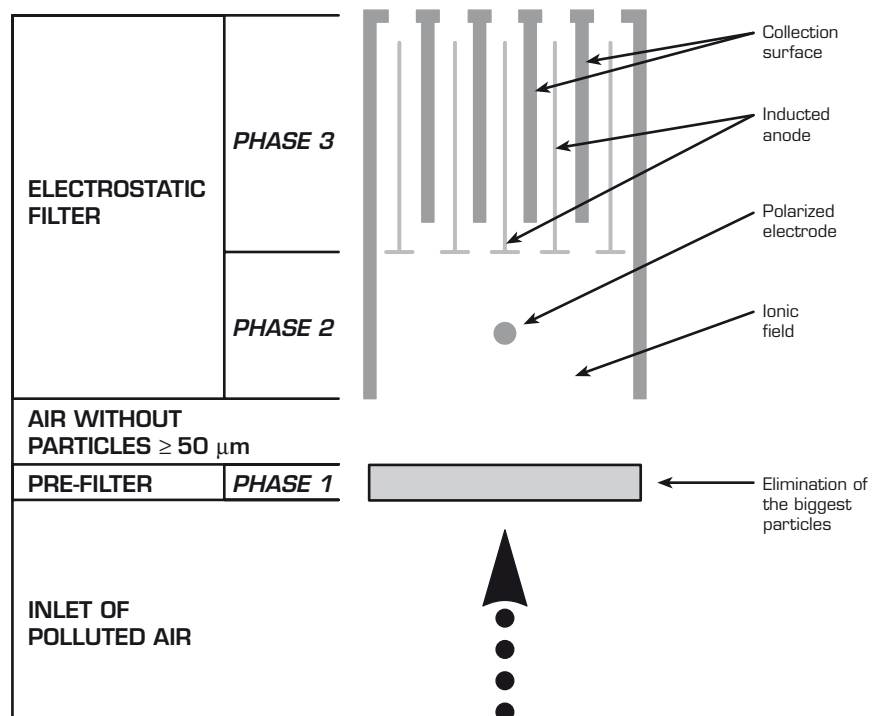
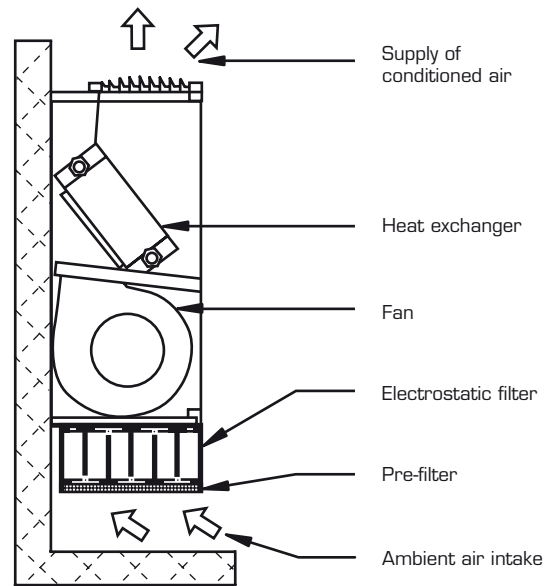
The charged particles passing through the second filter section. are pushed back by the anode and attracted to the collection surfaces by a strong, induced magnetic field. (Phase 3)

The air which leaves the unit is free from polluting particles.

Note!

Accessories are not mounted/installed when delivered

Size	Product code
13-14	QZMZ-09-11
23-24	QZMZ-09-21
33-34	QZMZ-09-31
53-54	QZMZ-09-51
63-74	QZMZ-09-61



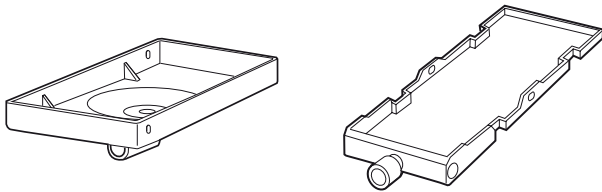
Accessories for QZM

Note!

Accessories are not mounted/installed when delivered¹⁾

Auxiliary driptray (for coil)

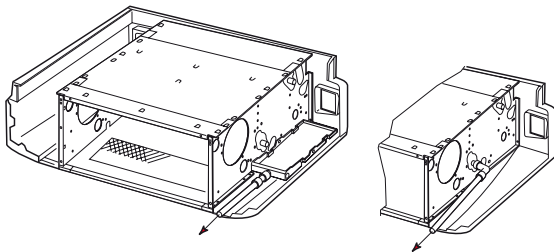
Intended for QZM	All Sizes	Product code
Vertical units	-	QZMZ-02-01
Horizontal units	Left hand unit	QZMZ-02-02
	Right hand unit	QZMZ-02-03



Supplementary plastic condensate drain pipe (with quick-connection)[for valve]

Allows correct condensate drain

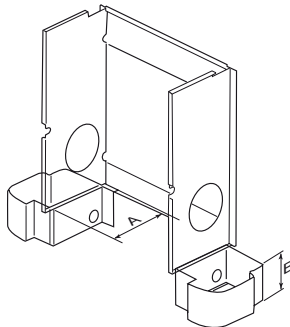
Intended for QZM	All Sizes	Product code
Vertical units	-	QZMZ-02-05
Horizontal units	-	QZMZ-02-05



Feet

for vertical unit with and without decorative cabinet

Sizes	Product code	A	B
13-54	QZMZ-03-10-0	185	100
63-74	QZMZ-03-20-0	215	100



Feet

for unit equipped with electrostatic filter

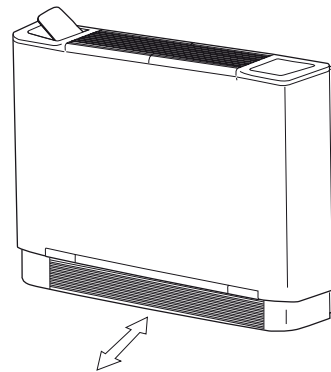
Sizes	Product code	A	B
13-54	QZMZ-03-10-1	185	100
63-74	QZMZ-03-20-1	215	100

Aluminium air inlet grill

(to be mounted between the feet)

To be ordered in addition the corresponding feet

Sizes	Product code
13-14	QZMZ-06-31
23-24	QZMZ-06-32
33-44	QZMZ-06-33
53-74	QZMZ-06-35



Electrical heating element

(230V - 1F+N)

With security thermostat and relais control (230V - 1F+N)

Base

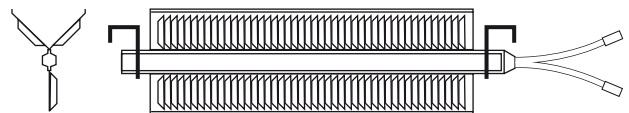
Sizes	Product code	Capacity (W)
13-14	QZMZ-16-10	1000
23-24	QZMZ-16-15	1500
33-44	QZMZ-16-20	2000
53-74	QZMZ-16-25	2500

Alternative 1

Sizes	Product code	Capacity (W)
13-14	QZMZ-16-09	600
23-24	QZMZ-16-14	900
33-44	QZMZ-16-19	1250
53-74	QZMZ-16-24	1500

Alternative 2

Sizes	Product code	Capacity (W)
13-14	QZMZ-16-08	400
23-24	QZMZ-16-13	600
33-44	QZMZ-16-18	750
53-74	QZMZ-16-23	1000



¹⁾ Except for electrical heating element.

Accessories for QZM

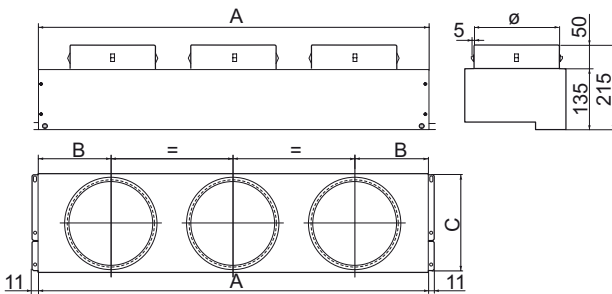
Note!

Accessories are not mounted/installed when delivered

Outlet plenum box

with internal insulation and standard spigots

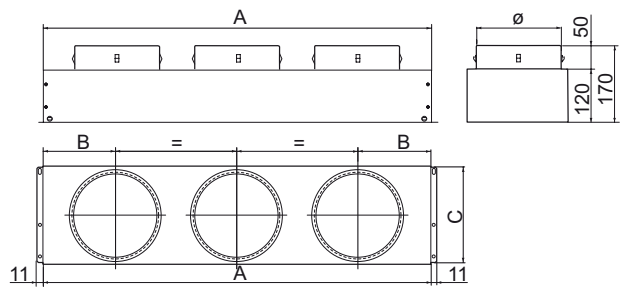
Sizes	Product code	A	B	C	ø
13-14	QZMZ-17-11-020	432	112	216	150
23-24	QZMZ-17-12-020	647	166	216	190
33-44	QZMZ-17-13-030	862	161	216	190
53-54	QZMZ-17-15-030	1077	188.5	216	190
63-74	QZMZ-17-16-030	1077	188.5	246	190



Inlet Plenum box

with internal insulation and standard spigots

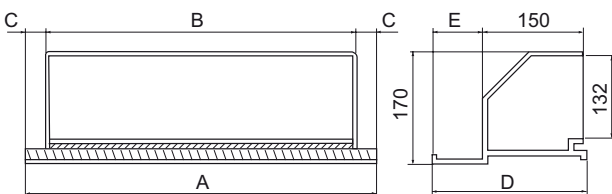
Sizes	Product code	A	B	C	ø
13-14	QZMZ-17-11-020	432	112	216	150
23-24	QZMZ-17-12-020	647	166	216	190
33-44	QZMZ-17-13-030	862	161	216	190
53-54	QZMZ-17-15-030	1077	188.5	216	190
63-74	QZMZ-17-16-030	1077	188.5	246	190



Outlet connection bend

90° bend - with internal insulation

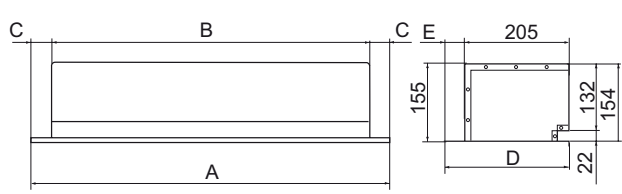
Sizes	Product code	A	B	C	D	E
13-14	QZMZ-17-19-000	454	390	32	205	55
23-24	QZMZ-17-29-000	669	590	39.5	205	55
33-44	QZMZ-17-39-000	884	790	47	205	55
53-54	QZMZ-17-59-000	1099	990	54.5	205	55
63-74	QZMZ-17-69-000	1099	990	54.5	235	85



Inlet connection bend

90° - with internal insulation

Sizes	Product code	A	B	C	D	E
13-14	QZMZ-18-19-000	454	390	32	216	11
23-24	QZMZ-18-29-000	669	590	39.5	216	11
33-44	QZMZ-18-39-000	884	790	47	216	11
53-54	QZMZ-18-59-000	1099	990	54.5	216	11
63-74	QZMZ-18-69-000	1099	990	54.5	246	41



Accessories for QZM

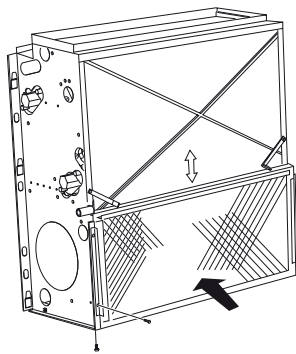
Note!

Accessories are not mounted/installed when delivered

Frontal air intake kit

(for vertical/horizontal unit without cabinet)
 Consist of bottom closing panel and filter sliding guides

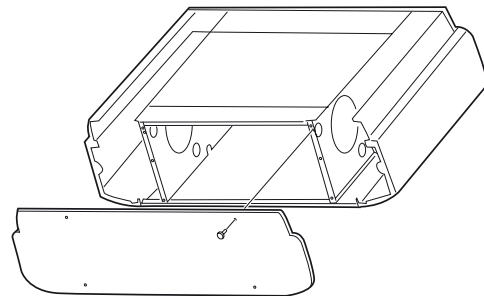
Sizes	Product code
13-14	QZMZ-11-10
23-24	QZMZ-11-20
33-44	QZMZ-11-30
53-74	QZMZ-11-50
63-74	QZMZ-11-60



Decorative back panel

(only for horizontal units with decorative cabinet)
 Intended for QZMT

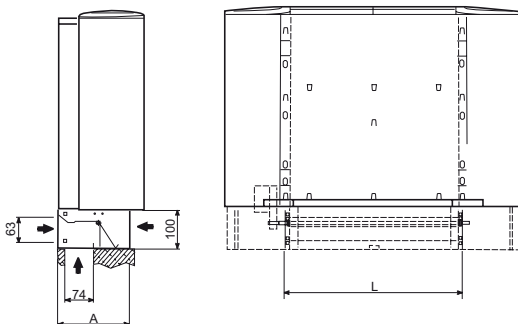
Sizes	Product code
13-14	QZMZ-19-11
23-24	QZMZ-19-21
33-44	QZMZ-19-31
53-74	QZMZ-19-51
63-74	QZMZ-19-61



Manual mixing damper (fresh air)

Can be motorized -
 detailed information available on request

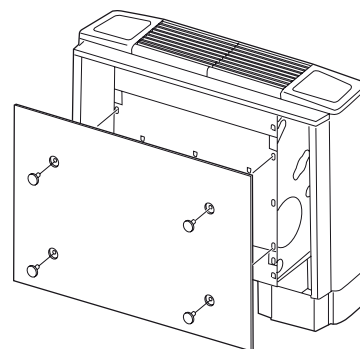
Sizes	Product code	A	L
13-14	QZMZ-10-10	185	454
23-24	QZMZ-10-20	185	669
33-44	QZMZ-10-30	185	884
53-54	QZMZ-10-50	185	1099
63-74	QZMZ-10-60	215	1099



Decorative back panel

(only for vertical units with decorative cabinet)
 Intended for QZMF and QZMM

Sizes	Product code
13-14	QZMZ-19-10
23-24	QZMZ-19-20
33-44	QZMZ-19-30
53-74	QZMZ-19-50



Condensate pump

(for horizontal units)

Intended for QZM	All Sizes	Product code
Unit NOT fitted	-	QZMZ-07-08
Unit fitted	-	QZMZ-07-10

Aluminium filter

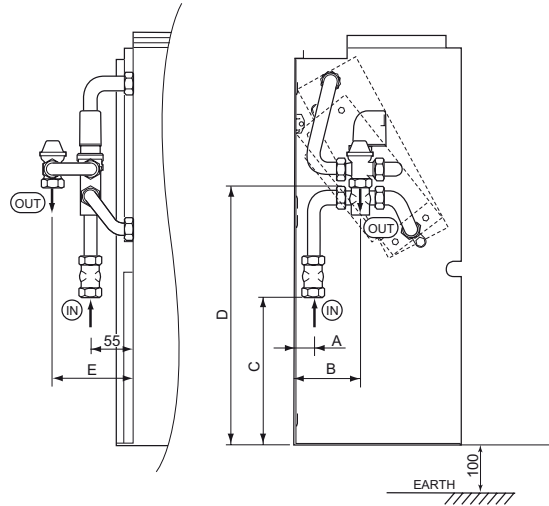
Sizes	Product code
13-14	QZMZ-09-10
23-24	QZMZ-09-20
33-44	QZMZ-09-30
53-74	QZMZ-09-50
63-74	QZMZ-09-60

Control valve kits for QZM

4-way control valve kit - ON/OFF (230V) -
2-pipe system

Unit mounted - Cooling or Heating

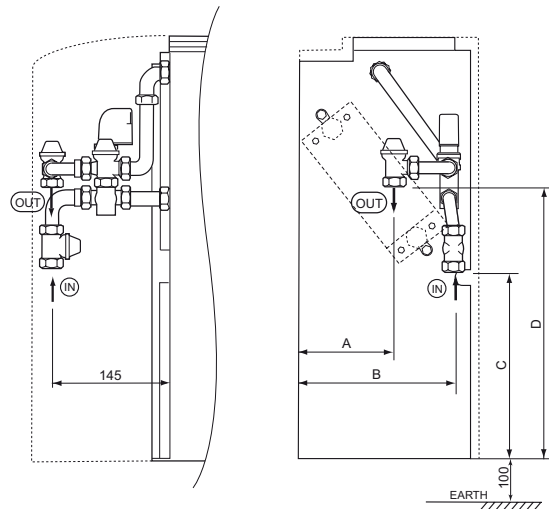
Sizes	Product code ¹⁾	Dia	A	B	C	D	E
13 - 34	QZMZ-22-31	1/2"	25	85	190	290	105
43 - 74	QZMZ-22-34	3/4"	50	120	185	290	105



4-way control valve kit - ON/OFF (230V) -
4-pipe system

Unit mounted - Cooling and Heating

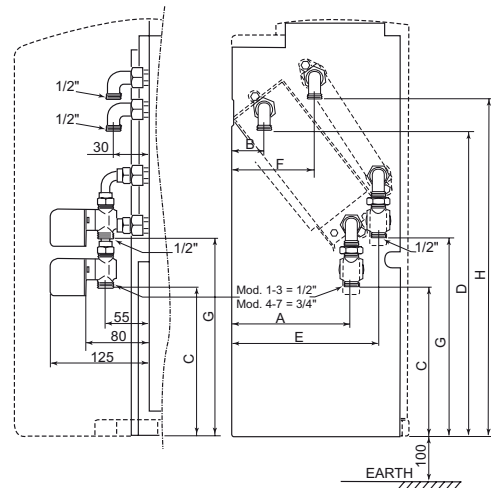
Sizes	Product code ¹⁾	Dia	A	B	C	D
13 - 34	QZMZ-42-31	1/2"+1/2"	120	195	240	340
43 - 74	QZMZ-42-34	3/4"+1/2"	135	200	235	330



2-way control valve kit - ON/OFF (230V) -
2-pipe system

Unit mounted - Cooling or Heating

Sizes	Product code ¹⁾	Dia
13 - 34	QZMZ-21-21	1/2"
43 - 74	QZMZ-21-24	3/4"



2-way control valve kit - ON/OFF (230V) -
4-pipe system

Unit mounted - Cooling or Heating

Sizes	Product code ¹⁾	Dia	A	B	C	D	E	F	G	H
13-34	QZMZ-41-21	1/2"+1/2"	149	41	180	386	186	103	239	456
43-74	QZMZ-41-24	3/4"+1/2"	176	40	175	422	210	104	237	440

¹⁾ Use this code if ordered separately. **Note!** If the valve kit is ordered with this code, the valve kit will not be mounted on fan coil.

Product code

"Classic" fan coil unit

QZM . -aa-b-c-1-ee

Version (.) _____

- A = vertical/horizontal basic unit - without decorative cabinet
- F = vertical/horizontal unit - with decorative cabinet
- M = vertical unit - with decorative cabinet - front air intake
- T = horizontal unit- with decorative cabinet - underside air intake

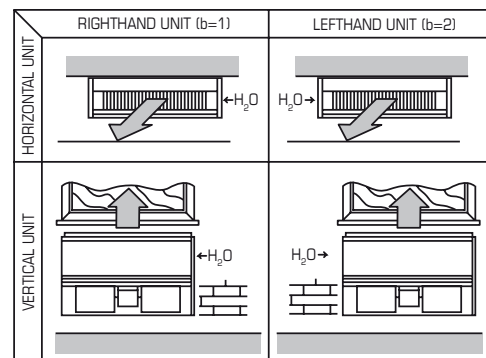
Size (aa) _____

13, 14, 23, 24, 33, 34, 43, 44, 53, 54, 63, 64, 73, 74

Water connection (b) _____

Vertical unit = Horizontal unit Looking into the air outlet

- 1 = right hand unit - water connections on the right side of the unit
- 2 = left hand unit - water connections on the left side of the unit



Coil arrangement (c) _____

- 2 = 2-pipe system (one water coil) - cooling or heating
- 4 = 4-pipe system (two water coils) - cooling and heating

Unit voltage (d) _____

1 = 230 V / 1 / 50 Hz according to IEC publ. 38

Accessories 'mounted' on the unit (ee) _____

- 00 = without electrical element. 2-way valves kit. 4-way valves kit and electrostatic filter
- 01 = with standard electrical element (see accessories list)
- 02 = with standard 2-way valves kit (see accessories list)
- 03 = with standard 4-way valves kit (see accessories list)
- 04 = with electrostatic filter (see accessories list)
- 05 = with standard electrical element and with standard 2-way valves kit (see accessories list)
- 06 = with standard electrical element and with standard 4-way valves kit (see accessories list)
- 07 = with electrostatic filter and with standard 2-way valves kit (see accessories list)
- 08 = with electrostatic filter and with standard 4-way valves kit (see accessories list)

Remark: Do not use an electrical element in combination with an electrostatic filter.

Accessories

Accessories must be specified separately. They are ordered and delivered separately (not electrical element)
For accessories list see pages 15-18.

Control equipment

Control equipment is included in a separate catalogue "Control equipment" and must be specified separately.