Midea Air Handling Unit
Technical Service Manual

Content

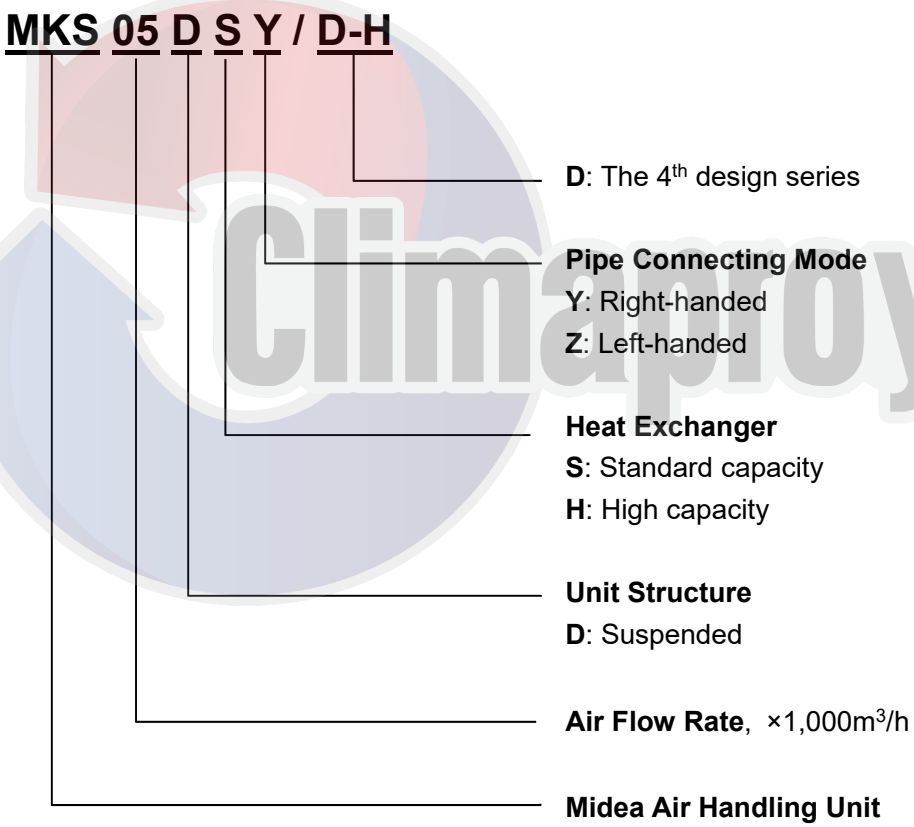
1. Product Introduction

1.1 Brief Introduction

Air Handling Unit (AHU) is the primary equipment in an air system of a central hydronic system. It handles and conditions the air and distributes it to various conditioned spaces. Midea air handling units (AHUs) have been designed and manufactured to meet the requirements of all kinds of space cooling and heating, such as office buildings, shopping malls, exhibition halls, airports, railway stations, hotels, factories and any other central air-conditioning systems.

Midea AHUs have been widely used in most part of the world for a couple of years. Now, the 3th generation AHU (horizontal and vertical type) and the 4th generation AHU (suspended type) have been launched to provide you with more comfortable and convenient. It adapts unitary structure design, more outstanding cold-bridge free performance, lower air leakage and more elegant appearance. There are 3 types: suspended type, horizontal type and vertical type, including 62 standard models, and the air flow rate is available from 2,000m^3/h to 40,000m^3/h. Different external static pressure (ESP) can be customized to meet different kinds of applications.

1.2 Nomenclature



MKS 05 W 4 Y / C-H

C: The 3rd design series

Pipe Connecting Mode
Y: Right-handed
Z: Left-handed

Coil Rows
4: 4-rows
6: 6-rows

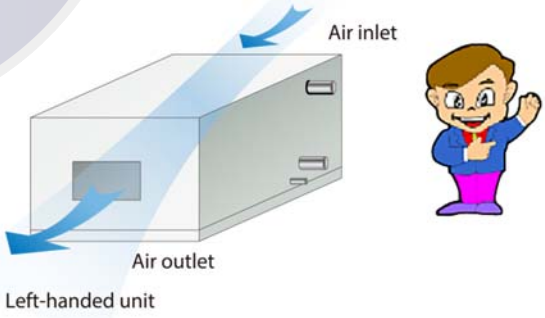
Unit Structure
W: Horizontal
L: Vertical

Air Flow Rate, ×1,000m³/h

Midea Air Handling Unit

1.3 Orientation

Unit handling orientation is determined by location of pipe connection while facing unit along with the direction of air flow. The unit below is left-handed connection unit, otherwise is the right-handed connection unit.



1.4 Features

- **No Cold Bridge:**

All interior metal surfaces are insulated from external metal surfaces by means of polyurethane foam and specially designed gaskets. The common practice of special insulation used in conventional designs by gluing PE strips to exposed interior metal surfaces is eliminated. Cold bridge is thus prevented.

- **No Air Leakage:**

The aluminum frames add strength as well providing an air tight connection through its convex and concave profiles interlock. The integrated panels are formed with GI sheet steel, insulated with high pressure PU foam to preventing cold bridge and condensation. Nuts and bolts are used to further enhance the air tightness and rigidity

of the cabinet.

- **Polyurethane Insulation:**

Panel insulation is made up of Polyurethane foam which is formed by specially designed molds under high pressure. Its density is 50 kg/m^3 and standard panel thickness is 25mm, 35mm and 50mm.

- **Modular Design:**

Each module is 100mm. Standardized modular panels fastened by nuts and bolts makes on site assembly of CKD units simple and neat.

- **Heat Exchanger:**

Coil is made by mechanical expansion to connect the copper tube with aluminum fins. Anti-corrosion coated aluminum and copper fins are optional. Stainless steel coils are also alternative. The heating and cooling coils are selected with professional software which is written based on the science with the actual situation of coil.

- **Low Noise:**

The low noise fans are selected with professional software which are statically and dynamically tested to ensure high efficiency, low noise and low vibration. Internal spring isolators and vibration dampers are standard to minimize vibration as well as a soft connection between air outlet of fan and the panel to minimize noise, furthermore, special integrate structure panels also reduces the noise.

- **Filter:**

Nylon filter can be taken out to wash or change.

1.5 Optional Spare Parts

- Control Box
- Humidifier
- Two-way/Three-way Valves
- Secondary and High Efficiency Filter
- Damper

2. Specifications

2.1 Suspended type

Return air condition

Model MKS/D			02D	03D	04D	05D	06D	07D	08D	09D	10D	12D	15D
Air volume		m^3/h	2000	3000	4000	5000	6000	7000	8000	9000	10000	12000	15000
Standard capacity	Rated cooling capacity	kW	11.2	17.1	22.8	28.5	34.1	39.1	45.5	51.2	58.9	68.3	85.3
	Rated heating capacity	kW	18.6	26.7	39.9	47.5	57.5	66.0	73.1	83.0	99.3	113.5	142.1
	Water flow rate	L/s	0.54	0.82	1.09	1.36	1.63	1.90	2.17	2.45	2.81	3.26	4.08
	External static pressure	Pa	67	52	70	42	92	98	79	116	136	108	125
	Fan motor input	kW	0.37	0.55	0.75	1.10	1.50	1.10	1.50	2.20	2.20	3.00	4.00
	Water pressure drop	kPa	19	35	52	20	25	44	31	34	30	52	36
	Chilled water pipe	DN	40	40	40	40	40	40	50	50	50	50	50
	Sound level	DB	58	58.0	60.0	62.0	62.0	64.0	64.0	66.0	66.0	68.0	70.0
	Net weight	kg	90	120	145	160	180	190	205	235	260	270	350
High capacity	Rated cooling capacity	kW	14.6	22.0	29.3	36.6	44.1	51.7	59.1	67.1	74.6	85.6	107.0
	Rated heating capacity	kW	22.6	33.8	45.1	56.4	67.7	79.0	90.2	100.8	112.0	135.2	169.0
	Water flow rate	L/s	0.70	1.05	1.40	1.75	2.11	2.47	2.82	3.21	3.56	4.09	5.11
	External static pressure	Pa	227	212	230	202	252	258	239	286	306	278	305
	Fan motor input	kW	0.75	1.10	1.10	1.50	2.20	2.20	2.20	3.00	3.00	4.00	5.50

	Water pressure drop	kPa	32	57	62	40	54	61	42	59	58	57	33
	Chilled water pipe	DN	40	40	40	40	40	40	50	50	50	50	50
	Sound level	DB	59	58.1	61.9	63.0	63.3	65.4	65.5	67.0	67.8	69.6	71.8
	Net weight	kg	95	125	155	170	190	205	220	250	280	290	380

Model MKS/D		02D	03D	04D	05D	06D	07D
Drain pipe	DN	25	25	25	25	25	25
Package dimension	mm	1066×914×702	1216×994×752	1496×994×752	1586×994×752	1786×994×752	1786×994×852
Net dimension	mm	870×750×555	1020×830×605	1300×830×605	1390×830×605	1590×830×605	1590×830×705
Power supply	V-Ph-Hz	380~415V-3-50Hz					

Model MKS/D		08D	09D	10D	12D	15D
Drain pipe	DN	25	25	25	25	25
Package dimension	mm	1896×994×852	1896×1084×902	2136×1084×902	2136×1084×1007	2436×1164×1052
Net dimension	mm	1700×830×705	1700×920×755	1940×920×755	1940×920×860	2240×1000×905
Power supply	V-Ph-Hz	380~415V-3-50Hz				

Note:

1. Cooling capacity is based on the following:
   a) Water temperature is 7℃(inlet)/12℃(outlet);
   b) Air entering condition is 27℃ DB/19.5℃ WB.
2. Heating capacity is based on the following:
   a) Water temperature is 60℃(inlet)/50℃(outlet)
   b) Air entering condition is 21℃ DB.

Fresh air condition

Model MKS/D			02D	03D	04D	05D	06D	07D	08D	09D	10D	12D	15D
Air volume		m^3/h	2000	3000	4000	5000	6000	7000	8000	9000	10000	12000	15000
Standard capacity	Rated cooling capacity	kW	23.5	32.0	45.5	57.1	64.9	83.8	87.6	106.1	113.0	139.1	170.0
	Rated heating capacity	kW	27.3	35.6	52.0	72.6	84.0	97.2	112.0	123.1	140.0	161.4	210.0
	Water flow rate	L/s	1.12	1.53	2.17	2.73	3.10	4.00	4.19	5.07	5.40	6.65	8.12
	External static pressure	Pa	67	52	70	42	92	98	79	116	136	108	125
	Fan motor input	kW	0.37	0.55	0.75	1.10	1.50	1.10	1.50	2.20	2.20	3.00	4.00
	Water pressure drop	kPa	38	55	52	61	37	36	73	39	79	41	73
	Chilled water pipe	DN	40	40	40	40	40	40	50	50	50	50	50
	Sound level	DB	58.0	58.0	60.0	62.0	62.0	64.0	64.0	66.0	66.0	68.0	70.0
	Net weight	kg	90	120	145	160	180	190	205	235	260	270	350
High capacity	Rated cooling capacity	kW	28.4	42.5	56.7	70.9	84.5	98.9	113.0	126.9	141.0	170.4	213.0
	Rated heating capacity	kW	33.0	49.4	65.9	82.4	97.0	115.5	132.0	148.5	165.0	197.6	247.0
	Water flow rate	L/s	1.35	2.03	2.71	3.39	4.04	4.72	5.40	6.06	6.74	8.14	10.18
	External static pressure	Pa	227	212	230	202	252	258	239	286	306	278	305
	Fan motor input	kW	0.75	1.10	1.10	1.50	2.20	2.20	2.20	3.00	3.00	4.00	5.50
	Water pressure drop	kPa	54	77	58	58	62	59	46	46	69	57	76
	Chilled water pipe	DN	40	40	40	40	40	40	50	50	50	50	50
	Sound level	DB	58.9	58.1	61.9	63.0	63.3	65.4	65.5	67.0	67.8	69.6	71.8
	Net weight	kg	95	125	155	170	190	205	220	250	280	290	380

Model MKS/D		02D	03D	04D	05D	06D	07D
Drain pipe	DN	25	25	25	25	25	25
Package dimension	mm	1066×914×702	1216×994×752	1496×994×752	1586×994×752	1786×994×752	1786×994×852
Net dimension	mm	870×750×555	1020×830×605	1300×830×605	1390×830×605	1590×830×605	1590×830×705
Power supply	V-Ph-Hz	380~415V-3-50Hz					

Model MKS/D		08D	09D	10D	12D	15D
Drain pipe	DN	25	25	25	25	25
Package dimension	mm	1896×994×852	1896×1084×902	2136×1084×902	2136×1084×1007	2436×1164×1052
Net dimension	mm	1700×830×705	1700×920×755	1940×920×755	1940×920×860	2240×1000×905
Power supply	V-Ph-Hz	380~415V-3-50Hz				

Note:

1. Cooling capacity is based on the following:
   a) Water temperature is 7℃(inlet)/12℃(outlet);
   b) Air entering condition is 35℃ DB/28℃ WB.
2. Heating capacity is based on the following:
   a) Water temperature is 60℃(inlet)/50℃(outlet)
   b) Air entering condition is 7℃ DB.

2.2 Horizontal type

Return air condition

Model MKS/C			05W	06W	08W	10W	15W	20W	25W	30W	35W	40W
Air volume		m^3/h	5000	6000	8000	10000	15000	20000	25000	30000	35000	40000
4-row	Rated cooling capacity	kW	28.3	34.6	50.8	63.2	91	119.3	149.3	179.2	209.1	238.9
	Rated heating capacity	kW	47.5	58.8	73.1	91.3	131.3	183.4	248.9	298.7	348.4	398.2
	Water flow rate	L/s	1.35	1.65	2.43	3.02	4.35	5.70	7.13	8.56	9.99	11.41
	External static pressure	Pa	96	68	78	112	125	210	318	273	432	405
	Fan motor input	kW	1.1	1.1	1.5	3	4	7.5	7.5	11	2*5.5	2*7.5
	Water pressure drop	kPa	20.2	25	30.7	30	35.5	28.1	34	53.3	40	41.2
	Chilled water pipe	DN	40	40	50	50	50	65	65	65	2*65	2*65
	Sound level	DB	59.5	60.3	63.1	63.5	66.1	70.4	70.2	73.3	73.8	76.2
	Net weight	kg	190	210	250	300	390	500	580	650	880	920
6-row	Rated cooling capacity	kW	36.6	44.1	59.1	74.6	107	149	187	225	265	300
	Rated heating capacity	kW	56.4	67.7	90.2	112	169	224	279	335	391	447
	Water flow rate	L/s	1.75	2.11	2.82	3.56	5.11	7.12	8.93	10.75	12.66	14.33
	External static pressure	Pa	256	228	198	152	305	210	318	273	432	405
	Fan motor input	kW	1.5	2.2	2.2	3	5.5	7.5	7.5	11	2*7.5	2*7.5
	Water pressure drop	kPa	39.5	54	42.3	58	33	59	64	69	67	68
	Chilled water pipe	DN	40	40	50	50	65	65	80	80	2*65	2*65
	Sound level	DB	61.2	61.4	63.5	65.2	68.2	71.6	71.5	73.5	74.2	77.5
	Net weight	kg	230	270	273	325	480	620	685	765	950	1150

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Model MKS/C		05W	06W	08W	10W	15W
Drain pipe	DN	25	25	25	25	25
Package dimension	mm	1294×1264×980	1394×1264×980	1646×1314×1092	1864×1344×1112	2134×1364×1338
Net dimension	mm	1100×1120×840	1200×1120×840	1450×1170×945	1650×1200×965	1940×1220×1195
Power supply	V-Ph-Hz	380~415V-3-50Hz				

Model MKS/C		20W	25W	30W	35W	40W
Drain pipe	DN	25	25	25	25	25
Package dimension	mm	2642×1502×1462	2792×1552×1662	2992×1602×1727	3042×2028×2082	3042×2028×2212
Net dimension	mm	2440×1350×1310	2590×1400×1510	2790×1450×1580	2790×1880×1930	2790×1880×2060
Power supply	V-Ph-Hz	380~415V-3-50Hz				

Note:

1. Cooling capacity is based on the following:
   a) Water temperature is 7℃(inlet)/12℃(outlet);
   b) Air entering condition is 35℃ DB/28℃ WB.
2. Heating capacity is based on the following:
   a) Water temperature is 60℃(inlet)/50℃(outlet)
   b) Air entering condition is 7℃ DB..
3. 2* representative two coil

Fresh air condition

Model MKS/C			05W	06W	08W	10W	15W	20W	25W	30W	35W	40W
Air volume		m^3/h	5000	6000	8000	10000	15000	20000	25000	30000	35000	40000
4-row	Rated cooling capacity	kW	57.1	64.9	87.6	113.0	170.0	222.0	279.0	322.0	382.0	430.0
	Rated heating capacity	kW	72.6	84.0	112.0	140.0	210.0	280.0	350.0	412.0	490.0	560.0
	Water flow rate	L/s	2.7	3.1	4.2	5.4	8.1	10.6	13.3	15.4	18.3	20.5
	External static pressure	Pa	96	68	78	112	125	210	318	273	432	405
	Fan motor input	kW	1.1	1.1	1.5	3	4	7.5	7.5	11	2*5.5	2*7.5
	Water pressure drop	kPa	61	37	73	79	73	69	71	36	32	35
	Chilled water pipe	DN	40	40	50	50	50	65	65	65	2*65	2*65
	Sound level	DB	59.5	60.3	63.1	63.5	66.1	70.4	70.2	73.3	73.8	76.2
	Net weight	kg	190	210	250	300	390	500	580	650	880	920
6-row	Rated cooling capacity	kW	70.9	84.5	113.0	141.0	213.0	279.0	350.0	418.0	494.0	557.0
	Rated heating capacity	kW	82.4	97.0	132.0	165.0	247.0	323.0	404.0	485.0	566.0	647.0
	Water flow rate	L/s	3.4	4.0	5.4	6.7	10.2	13.3	16.7	20.0	23.6	26.6
	External static pressure	Pa	256	228	198	152	305	210	318	273	432	405
	Fan motor input	kW	1.5	2.2	2.2	3	5.5	7.5	7.5	11	2*7.5	2*7.5
	Water pressure drop	kPa	58	62	46	69	76	66	83	77	67	77
	Chilled water pipe	DN	40	40	50	50	65	65	80	80	2*65	2*65
	Sound level	DB	61.2	61.4	63.5	65.2	68.2	71.6	71.5	73.5	74.2	77.5
	Net weight	kg	230	270	273	325	480	620	685	765	950	1150

Model MKS/C		05W	06W	08W	10W	15W
Drain pipe	DN	25	25	25	25	25
Package dimension	mm	1294×1264×980	1394×1264×980	1646×1314×1092	1864×1344×1112	2134×1364×1338
Net dimension	mm	1100×1120×840	1200×1120×840	1450×1170×945	1650×1200×965	1940×1220×1195
Power supply	V-Ph-Hz	380~415V-3-50Hz				

Model MKS/C		20W	25W	30W	35W	40W
Drain pipe	DN	25	25	25	25	25
Package dimension	mm	2642×1502×1462	2792×1552×1662	2992×1602×1727	3042×2028×2082	3042×2028×2212
Net dimension	mm	2440×1350×1310	2590×1400×1510	2790×1450×1580	2790×1880×1930	2790×1880×2060
Power supply	V-Ph-Hz	380~415V-3-50Hz				

Note:

1. Cooling capacity is based on the following:
   a) Water temperature is 7℃(inlet)/12℃(outlet);
   b) Air entering condition is 35℃ DB/28℃ WB.
2. Heating capacity is based on the following:
   a) Water temperature is 60℃(inlet)/50℃(outlet)
   b) Air entering condition is 7℃ DB..
3. 2* representative two coil

2.3 Vertical type

Return air condition

Model MKS/C			03L	04L	05L	06L	08L	10L	15L	20L	25L	30L	35L	40L
Air volume		m^3/h	3000	4000	5000	6000	8000	10000	15000	20000	25000	30000	35000	40000
4-row	Rated cooling capacity	kW	17.1	22.8	28.3	34.6	50.8	58.9	91	113.7	149.3	179.2	209.1	238.9
	Rated heating capacity	kW	26.7	39.9	47.5	58.8	73.1	99.3	131.3	183.4	248.9	298.7	348.4	398.2
	Water flow rate	L/s	0.82	1.09	1.4	1.7	2.4	2.81	4.3	5.4	7.1	8.6	10.0	11.4
	External static pressure	Pa	52	79	96	68	118	112	125	152	218	173	235	193
	Fan motor input	kW	0.8	1.1	1.1	1.5	2.2	3.0	5.5	7.5	7.5	11.0	11.0	15.0
	Water pressure drop	kPa	35	52	20	25	31	30	36	28	34	53	40	41
	Chilled water pipe	DN	40	40	40	40	40	50	50	50	65	65	80	80
	Sound level	DB	57.1	58.2	60.5	61.4	63.2	64.5	67.6	70.5	70.7	73.1	73.6	76.2
	Net weight	kg	130	150	170	190	230	250	360	480	620	690	780	850
6-row	Rated cooling capacity	kW	22.0	29.3	36.6	44.1	59.1	74.6	107.0	149.0	187.0	225.0	265.0	300.0
	Rated heating capacity	kW	33.8	45.1	56.4	67.7	90.2	112.0	169.0	224.0	279.0	335.0	391.0	447.0
	Water flow rate	L/s	1.05	1.40	1.7	2.1	2.8	3.6	5.1	7.1	8.9	10.8	12.7	14.3
	External static pressure	Pa	212	239	256	228	288	292	205	152	218	173	235	193
	Fan motor input	kW	1.1	1.5	2.2	2.2	3.0	4.0	5.5	7.5	7.5	11.0	15.0	15.0
	Water pressure drop	kPa	57	62	40	54	42	58	33	59	64	69	67	68
	Chilled water pipe	DN	40	40	40	40	40	50	50	50	65	65	80	80
	Sound level	DB	57.5	60.3	61.2	61.9	63.6	65.4	68.4	71.2	71.3	73.5	74.2	77.5
	Net weight	kg	140	162	185	210	255	290	410	540	680	760	860	940

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Model MKS/C		03L	04L	05L	06L	08L	10L
Drain pipe	DN	25	25	25	25	25	25
Package dimension	mm	1260×730×1290	1300×730×1440	1360×780×1610	1450×780×1660	1600×890×1840	1660×890×1990
Net dimension	mm	1010×580×1100	1050×580×1250	1110×630×1420	1200×630×1470	1350×740×1650	1410×740×1800
Power supply	V-Ph-Hz	380~415V-3-50Hz					

Model MKS/C		15L	21L	24L	30L	35L	40L
Drain pipe	DN	25	25	25	25	25	25
Package dimension	mm	2190×960×2070	2670×1080×2170	3040×1180×2350	3040×1180×2540	3450×1220×2540	3650×1220×2540
Net dimension	mm	1940×740×1880	2420×860×1980	2790×960×2160	2790×960×2360	3200×1000×2360	3400×1000×2360
Power supply	V-Ph-Hz	380~415V-3-50Hz					

Note:

1. Cooling capacity is based on the following:
   a) Water temperature is 7℃(inlet)/12℃(outlet);
   b) Air entering condition is 27℃ DB/19.5℃ WB.
2. Heating capacity is based on the following:
   a) Water temperature is 60℃(inlet)/50℃(outlet)
   b) Air entering condition is 21℃ DB.

Fresh air condition

Model MKS/C			03L	04L	05L	06L	08L	10L	15L	20L	25L	30L	35L	40L
Air volume		m^3/h	3000	4000	5000	6000	8000	10000	15000	20000	25000	30000	35000	40000
4-row	Rated cooling capacity	kW	32.0	45.5	57.1	64.9	87.6	113.0	170.0	222.0	279.0	322.0	382.0	430.0
	Rated heating capacity	kW	35.6	46.0	72.6	84.0	112.0	140.0	210.0	280.0	350.0	412.0	490.0	560.0
	Water flow rate	L/s	1.53	2.17	2.73	3.10	4.19	5.40	8.12	10.61	13.33	15.38	18.25	20.54
	External static pressure	Pa	52	79	96	68	118	112	125	152	218	173	235	193
	Fan motor input	kW	0.8	1.1	1.1	1.5	2.2	3.0	5.5	7.5	7.5	11.0	11.0	15.0
	Water pressure drop	kPa	46	13	61	37	73	79	73	69	71	36	32	35
	Chilled water pipe	DN	40	40	40	40	40	50	50	50	65	65	80	80
	Sound level	DB	57.1	58.2	60.5	61.4	63.2	64.5	67.6	70.5	70.7	73.1	73.6	76.2
	Net weight	kg	130	150	170	190	230	250	360	480	620	690	780	850
6-row	Rated cooling capacity	kW	42.5	56.7	70.9	84.5	113.0	141.0	213.0	279.0	350.0	418.0	494.0	557.0
	Rated heating capacity	kW	49.4	65.9	82.4	97.0	132.0	165.0	247.0	323.0	404.0	485.0	566.0	647.0
	Water flow rate	L/s	2.03	2.71	3.39	4.04	5.40	6.74	10.18	13.33	16.72	19.97	23.60	26.61
	External static pressure	Pa	212	239	256	228	288	292	205	152	218	173	235	193
	Fan motor input	kW	1.1	1.5	2.2	2.2	3.0	4.0	5.5	7.5	7.5	11.0	15.0	15.0
	Water pressure drop	kPa	47	24	58	62	46	69	76	66	83	77	67	77
	Chilled water pipe	DN	40	40	40	40	40	50	50	50	65	65	80	80
	Sound level	DB	57.5	60.3	61.2	61.9	63.6	65.4	68.4	71.2	71.3	73.5	74.2	77.5
	Net weight	kg	140	162	185	210	255	290	410	540	680	760	860	940

Model MKS/C		03L	04L	05L	06L	08L	10L
Drain pipe	DN	25	25	25	25	25	25
Package dimension	mm	1260×730×1290	1300×730×1440	1360×780×1610	1450×780×1660	1600×890×1840	1660×890×1990
Net dimension	mm	1010×580×1100	1050×580×1250	1110×630×1420	1200×630×1470	1350×740×1650	1410×740×1800
Power supply	V-Ph-Hz	380~415V-3-50Hz					

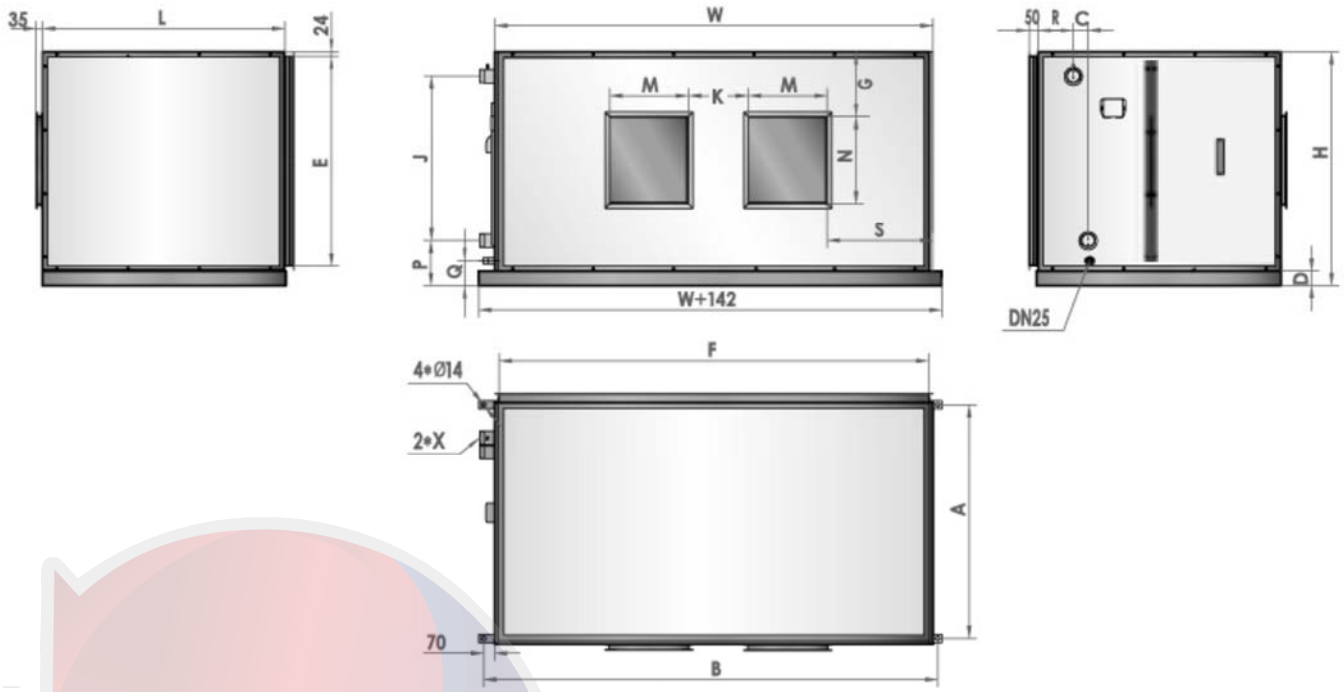
Model MKS/C		15L	21L	24L	30L	35L	40L
Drain pipe	DN	25	25	25	25	25	25
Package dimension	mm	2190×960×2070	2670×1080×2170	3040×1180×2350	3040×1180×2540	3450×1220×2540	3650×1220×2540
Net dimension	mm	1940×740×1880	2420×860×1980	2790×960×2160	2790×960×2360	3200×1000×2360	3400×1000×2360
Power supply	V-Ph-Hz	380~415V-3-50Hz					

Note:

1. Cooling capacity is based on the following:
   a) Water temperature is 7℃(inlet)/12℃(outlet);
   b) Air entering condition is 35℃ DB/28℃ WB.
2. Heating capacity is based on the following:
   a) Water temperature is 60℃(inlet)/50℃(outlet)
   b) Air entering condition is 7℃ DB.

3. Dimension

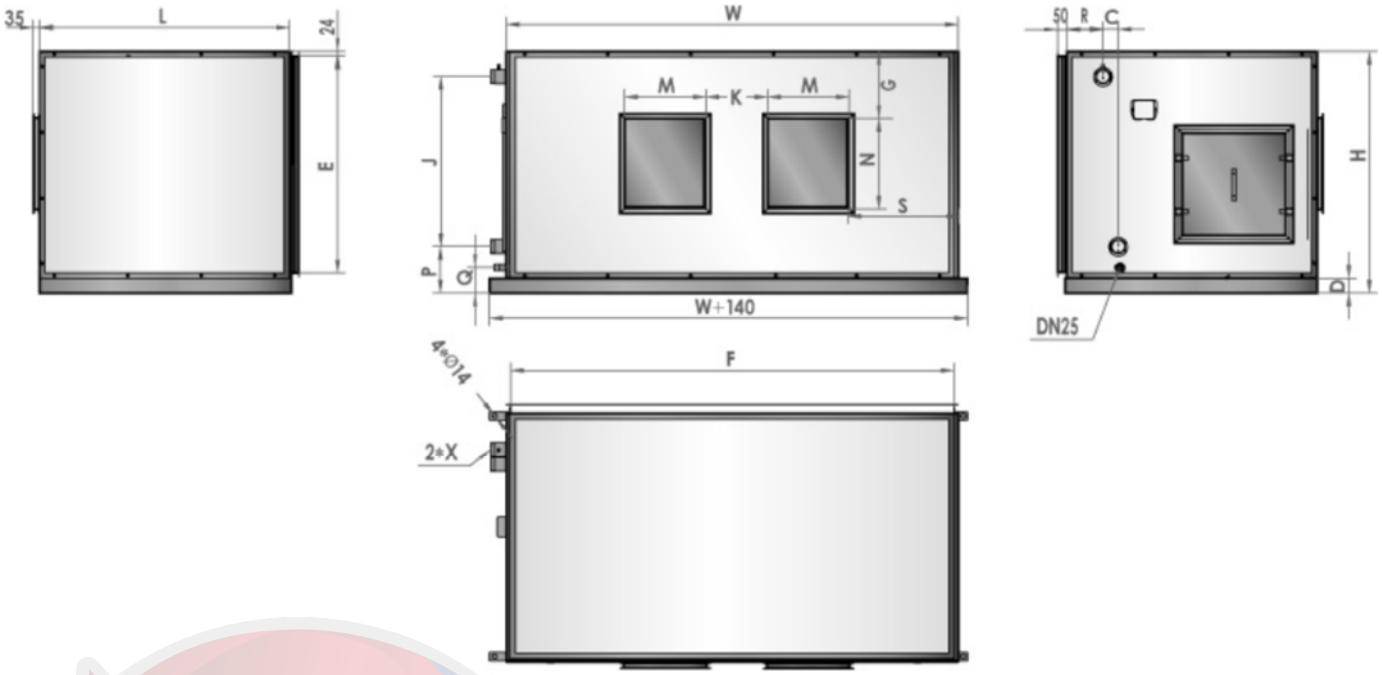
3.1 Suspended type



(unit:mm)

MKS/D-H		02D	03D	04D	05D	06D	07D	08D	09D	10D	12D	15D
Outside dimension	L	750	830	830	830	830	830	830	920	920	920	1000
	W	870	1020	1300	1390	1590	1590	1700	1700	1940	1940	2240
	H	555	605	605	605	605	705	705	755	755	860	905
C	S	66	66	66	66	66	66	66	66	66	66	66
	H	110	110	110	110	110	110	110	110	110	110	110
D		25	25	25	25	25	25	25	25	25	25	25
Inlet flange	E	465	510	510	525	525	625	625	675	675	680	825
	F	820	970	1250	1340	1540	1540	1650	1650	1890	1890	2190
G		135	166	166	166	166	211	211	211	211	316	300
J		195	245	245	295	295	400	400	445	445	550	595
K		/	/	172	172	232	252	252	234	314	312	282
Outlet flange	M	271	310	244	244	310	343	343	319	405	407	385
	N	238	274	274	274	274	301	301	351	351	353	416
P		170	170	170	170	170	170	170	170	170	170	170
Q		71	71	71	71	71	71	71	71	71	71	71
R		115	115	115	115	115	115	115	115	115	115	115
Diameter of connection pipe X	S	DN40	DN40	DN40	DN40	DN40	DN40	DN50	DN50	DN50	DN50	DN50
	H	DN40	DN40	DN40	DN40	DN40	DN40	DN50	DN50	DN50	DN50	DN50

3.2 Horizontal type

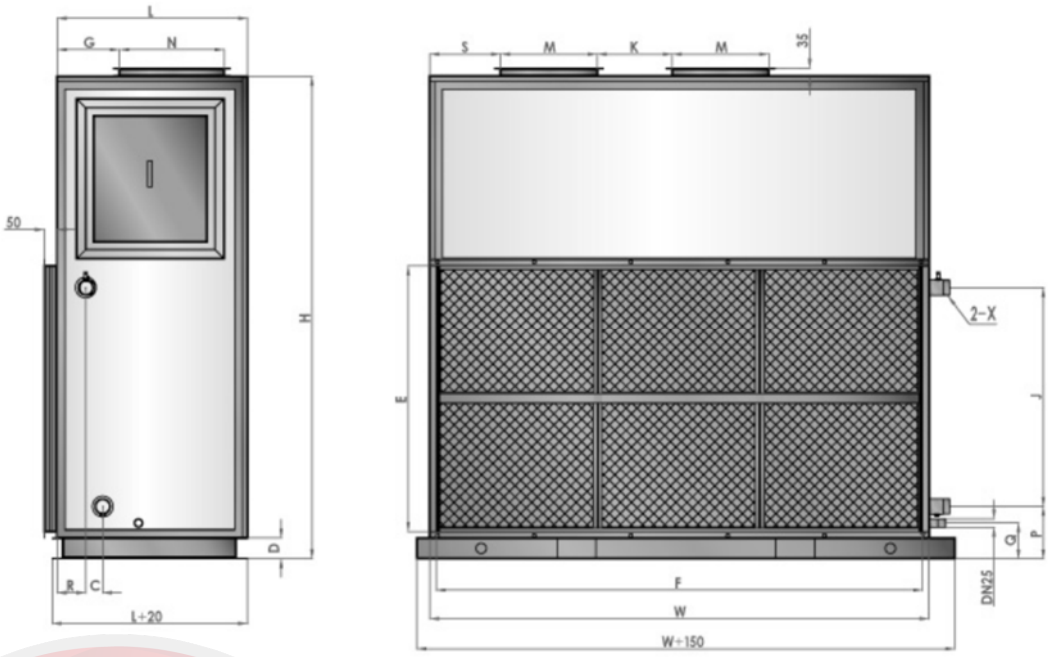


(unit:mm)

MODEL(MKS-H)		05W/C	06W/C	08W/C	10W/C	15W/C	20W/C	25W/C	30W/C	35W/C	40W/C
Outside dimension	L	1120	1120	1170	1200	1220	1350	1400	1450	1880	1880
	W	1100	1200	1450	1650	1940	2440	2590	2790	2790	2790
	H	840	840	945	965	1195	1310	1510	1580	1930	2060
C	4R	66	66	66	66	66	82.5	82.5	82.5	82.5	82.5
	6R	110	110	110	110	110	137.5	137.5	137.5	137.5	137.5
D		25	25	25	25	25	80	80	80	80	80
Inlet flange	E	762	762	865	890	1115	1175	1375	1440	1795	1925
	F	1050	1140	1390	1600	1880	2390	2540	2740	2740	2740
G		157	157	177	195	422	335	533	593	746	876
J		498	498	599	599	853	923	1114	1177	669	733
K		/	/	/	/	282	335	446	446	666	666
Outlet flange	M	405	405	482	482	373	430	567	567	648	648
	N	350	350	414	414	404	478	488	488	648	648
P		172	172	172	172	172	224	224	224	224	224
Q		71	71	71	71	71	126	126	126	126	126
R		156	156	156	156	156	195	195	195	186	186
Diameter of connection pipe X	4R	DN40	DN40	DN50	DN50	DN50	DN65	DN65	DN65	2xDN65	2xDN65
	6R	DN40	DN40	DN50	DN50	DN65	DN65	DN80	DN80	2xDN65	2xDN65

note:code 2x representative two coil.

3.3 Vertical type



(unit:mm)

MODEL(MKS-H)		03L/C	04L/C	05L/C	06L/C	08L/C	10L/C	15L/C	20L/C	25L/C	30L/C	35L/C	40L/C
Outside dimension	L	580	580	630	630	740	740	740	860	960	960	1000	1000
	W	1010	1050	1110	1200	1350	1410	1940	2420	2790	2790	3200	3400
	H	1100	1250	1420	1470	1650	1800	1880	1980	2160	2360	2360	2360
C	4R	66	66	66	66	66	66	66	83	83	83	118	118
	6R	110	110	110	110	110	110	110	138	138	138	138	138
D		50	50	50	50	50	50	80	80	80	80	80	80
Inlet flange	E	474	575	677	728	830	982	1038	1026	1090	1280	1280	1280
	F	960	1000	1060	1150	1300	1360	1890	2370	2740	2740	3150	3350
J		304	405	507	558	660	805	856	839	918	1108	1098	1098
K		/	/	/	/	/	/	282	373	448	448	438	438
Outlet flange	M	309	342	405	405	482	482	384	482	567	567	579	579
	N	273	300	350	350	414	414	414	414	488	488	579	579
G		188	202	205	205	249	249	233	247	309	309	303	307
S		212	207	232	271	307	347	266	290	348	348	616	854
P		161	161	161	161	161	168	203	206	211	211	214	214
Q		101	101	101	101	101	101	131	134	134	134	134	134
R		102	102	102	102	102	102	111	111	111	111	111	111
Diameter of connection pipe X	4R	DN40	DN40	DN40	DN40	DN40	DN50	DN50	DN50	DN65	DN65	DN80	DN80
	6R	DN40	DN40	DN40	DN40	DN40	DN50	DN50	DN50	DN65	DN65	DN80	DN80

note:code 2x representative two coil.

4. Coil Data

4.1 Suspended type

Model MKS/D	Type	Tube size	No. of rows	Fin per inch	Face area (W × H)
	-	mm	-	FPI	mm
02D	Copper tube and aluminum fin	Φ7.00	4/6	1.5	630×355.6
03D	Copper tube and aluminum fin	Φ7.00	4/6	1.5	760×406.4
04D	Copper tube and aluminum fin	Φ7.00	4/6	1.5	1000×406.4
05D	Copper tube and aluminum fin	Φ7.00	4/6	1.5	1100×406.4
06D	Copper tube and aluminum fin	Φ7.00	4/6	1.5	1350×457.2
07D	Copper tube and aluminum fin	Φ9.52	3/4	1.8	1350×558.8
08D	Copper tube and aluminum fin	Φ9.52	3/4	1.8	1450×558.8
09D	Copper tube and aluminum fin	Φ9.52	3/4	1.8	1450×609.6
10D	Copper tube and aluminum fin	Φ9.52	3/4	1.8	1680×609.6
12D	Copper tube and aluminum fin	Φ9.52	3/4	1.8	1680×711.2
15D	Copper tube and aluminum fin	Φ9.52	3/4	1.8	2000×762

4.2 Horizontal type

Model MKS/C-T	Type	Tube size	No. of rows	Fin per inch	Face area (W× H)
	-	mm	-	FPI	mm
05W	Copper tube and aluminum fin	Φ9.52	4/6	1.8	850×660.4
06W	Copper tube and aluminum fin	Φ9.52	4/6	1.8	950×711.2
08W	Copper tube and aluminum fin	Φ9.52	4/6	1.8	1200×762
10W	Copper tube and aluminum fin	Φ9.52	4/6	1.8	1400×762
15W	Copper tube and aluminum fin	Φ9.52	4/6	1.8	1550×1016
20W	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2150×1079.5
25W	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2300×1270
30W	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2500×1333.5
35W	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2500×1651
40W	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2500×1778

4.3 Vertical type

Model	Type	Tube size	No. of rows	Fin per inch	Face area (W × H)
MKS/C	-	mm	-	FPI	mm
03L	Copper tube and aluminum fin	Φ9.52	4/6	1.8	760×406.4
04L	Copper tube and aluminum fin	Φ9.52	4/6	1.8	800×508
05L	Copper tube and aluminum fin	Φ9.52	4/6	1.8	865×609.6
06L	Copper tube and aluminum fin	Φ9.52	4/6	1.8	950×660.4
08L	Copper tube and aluminum fin	Φ9.52	4/6	1.8	1100×762
10L	Copper tube and aluminum fin	Φ9.52	4/6	1.8	1150×914.4
15L	Copper tube and aluminum fin	Φ12.7	4/6	1.8	1630×965.2
20L	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2150×965.2
25L	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2500×1016
30L	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2500×1206.5
35L	Copper tube and aluminum fin	Φ12.7	4/6	2.2	2900×1206.5
40L	Copper tube and aluminum fin	Φ12.7	4/6	2.2	3100×1206.5

5. Customizable ESP

5.1 Suspended type

MKS/D	Air volume（m^3/h)	Rows of cooling coil	External static pressure（Pa)					
			P1	P2	P3	P4	P5	P6
02D	2000	4	27	67	107	147	187	227
		6	27	67	107	147	187	227
03D	3000	4	12	52	92	132	172	212
		6	12	52	92	132	172	212
04D	4000	4	30	70	110	150	190	230
		6	30	70	110	150	190	230
05D	5000	4	2	42	82	122	162	202
		6	2	42	82	122	162	202
06D	6000	4	52	92	132	172	212	252
		6	52	92	132	172	212	252
07D	7000	3	58	98	138	178	218	258
		4	58	98	138	178	218	258
08D	8000	3	39	79	119	159	199	239
		4	39	79	119	159	199	239
09D	9000	3	76	116	156	196	236	286
		4	76	116	156	196	236	286
10D	10000	3	96	136	176	216	256	306
		4	96	136	176	216	256	306
12D	12000	3	68	108	148	188	228	278
		4	68	108	148	188	228	278
15D	15000	3	85	125	165	205	255	305
		4	85	125	165	205	255	305

Note: Characters in yellow are standard motor power input in standard ESP, others ESP must be customized.

MKS/D	Air volume (m^3/h)	Rows of cooling coil	Motor power（kW) corresponding to external static pressure					
			P1	P2	P3	P4	P5	P6
02D	2000	4	0.37	0.37	0.55	0.55	0.55	0.55
		6	0.37	0.55	0.55	0.55	0.75	0.75
03D	3000	4	0.55	0.55	0.55	0.75	0.75	0.75
		6	0.55	0.55	0.75	0.75	0.75	1.1
04D	4000	4	0.75	0.75	0.75	1.1	1.1	1.1
		6	0.75	1.1	1.1	1.1	1.1	1.1
05D	5000	4	1.1	1.1	1.5	1.5	1.5	1.5
		6	1.5	1.5	1.5	1.5	1.5	2.2
06D	6000	4	1.1	1.5	1.5	1.5	1.5	2.2
		6	1.5	1.5	1.5	1.5	2.2	2.2
07D	7000	4	1.1	1.1	1.1	1.5	1.5	2.2
		6	1.1	1.5	1.5	1.5	2.2	2.2
08D	8000	3	1.5	1.5	1.5	1.5	2.2	2.2
		4	1.5	1.5	2.2	2.2	2.2	2.2
09D	9000	3	2.2	2.2	2.2	2.2	2.2	3
		4	2.2	2.2	2.2	2.2	3	3
10D	10000	3	2.2	2.2	2.2	3	3	3
		4	2.2	2.2	3	3	3	3
12D	12000	3	3	3	3	3	4	4
		4	3	3	3	4	4	4
15D	15000	3	4	4	4	4	5.5	5.5
		4	4	4	4	5.5	5.5	5.5

Note: Characters in yellow are standard motor power input in standard ESP, others power input correspondence others customized ESP.

5.2 Horizontal type

MKSxxY(Z)/T	Air volume（m^3/h)	Rows of cooling coil	External static pressure（Pa)					
			P1	P2	P3	P4	P5	P6
05W	5000	4	56	96	136	176	216	256
		6	56	96	136	176	216	256
06W	6000	4	28	68	108	148	188	228
		6	28	68	108	148	188	228
08W	8000	4	38	78	118	158	198	238
		6	38	78	118	158	198	238
10W	10000	4	72	112	152	192	242	292
		6	72	112	152	192	242	292
15W	15000	4	85	125	165	205	255	305
		6	85	125	165	205	255	305
20W	20000	4	170	210	260	310	360	410
		6	170	210	260	310	360	410
25W	25000	4	268	318	368	418	468	518
		6	268	318	368	418	468	518
30W	30000	4	223	273	323	373	423	473
		6	223	273	323	373	423	473
35W	35000	4	382	432	482	532	582	632
		6	382	432	482	532	582	632
40W	40000	4	355	405	455	505	555	605
		6	355	405	455	505	555	605

Note: Characters in yellow are standard motor power input in standard ESP, others ESP must be customized.

MKSxxY(Z)/T	Air volume（m^3/h)	Rows of cooling coil	Motor power（kW) corresponding to external static pressure					
			P1	P2	P3	P4	P5	P6
05W	5000	4	1.1	1.1	1.1	1.1	1.5	1.5
		6	1.1	1.1	1.1	1.5	1.5	1.5
06W	6000	4	1.1	1.1	1.5	1.5	1.5	2.2
		6	1.1	1.5	1.5	1.5	2.2	2.2
08W	8000	4	1.5	1.5	1.5	2.2	2.2	2.2
		6	1.5	1.5	2.2	2.2	2.2	/
10W	10000	4	2.2	3	3	3	/	/
		6	3	3	3	/	/	/
15W	15000	4	3	4	4	4	4	5.5
		6	3	4	4	4	4	5.5
20W	20000	4	5.5	7.5	7.5	7.5	7.5	11
		6	7.5	7.5	7.5	7.5	7.5	11
25W	25000	4	5.5	7.5	7.5	7.5	7.5	11
		6	7.5	7.5	7.5	7.5	11	11
30W	30000	4	11	11	11	11	11	11
		6	11	11	11	11	11	15
35W	35000	4	2*5.5	2*5.5	2*7.5	2*7.5	2*7.5	2*7.5
		6	2*7.5	2*7.5	2*7.5	2*7.5	2*7.5	2*11
40W	40000	4	2*7.5	2*7.5	2*7.5	2*11	2*11	2*11
		6	2*7.5	2*7.5	2*11	2*11	2*11	2*11

Note: Characters in yellow are standard motor power input in standard ESP, others power input correspondence others customized ESP.

5.3 Vertical type

MKSxxY(Z)/T	Air volume（m^3/h)	Rows of cooling coil	External static pressure（Pa)					
			P1	P2	P3	P4	P5	P6
03L	3000	4	12	52	92	132	172	212
		6	12	52	92	132	172	212
04L	4000	4	39	79	119	159	199	239
		6	39	79	119	159	199	239
05L	5000	4	56	96	136	176	216	256
		6	56	96	136	176	216	256
06L	6000	4	28	68	108	148	188	228
		6	28	68	108	148	188	228
08L	8000	4	78	118	158	198	238	288
		6	78	118	158	198	238	288
10L	10000	4	72	112	152	192	242	292
		6	72	112	152	192	242	292
15L	15000	4	85	125	165	205	255	305
		6	85	125	165	205	255	305
20L	20000	4	112	152	192	242	292	342
		6	112	152	192	242	292	342
25L	25000	4	178	218	268	318	368	418
		6	178	218	268	318	368	418
30L	30000	4	133	173	223	273	323	373
		6	133	173	223	273	323	373
35L	35000	4	185	235	285	335	385	435
		6	185	235	285	335	385	435
40L	40000	4	143	193	243	293	343	393
		6	143	193	243	293	343	393

Note: Characters in red are standard motor power input in standard ESP, others ESP must be customized.

MKSxxY(Z)/T	Air volume（m^3/h)	Rows of cooling coil	Motor power（kW) corresponding to external static pressure					
			P1	P2	P3	P4	P5	P6
03L	3000	4	0.75	0.75	0.75	1.1	1.1	1.1
		6	0.75	0.75	1.1	1.1	1.1	1.1
04L	4000	4	1.1	1.1	1.1	1.1	1.1	1.5
		6	1.1	1.1	1.1	1.1	1.5	1.5
05L	5000	4	1.1	1.1	1.5	1.5	1.5	1.5
		6	1.1	1.5	1.5	1.5	1.5	2.2
06L	6000	4	1.1	1.5	1.5	1.5	2.2	2.2
		6	1.5	1.5	1.5	2.2	2.2	2.2
08L	8000	4	1.5	2.2	2.2	2.2	2.2	3
		6	2.2	2.2	2.2	2.2	3	3
10L	10000	4	3	3	3	3	3	4
		6	3	3	3	3	4	4
15L	15000	4	5.5	5.5	5.5	5.5	5.5	7.5
		6	5.5	5.5	5.5	5.5	7.5	7.5
20L	20000	4	7.5	7.5	7.5	7.5	7.5	11
		6	7.5	7.5	7.5	7.5	11	11
25L	25000	4	7.5	7.5	7.5	11	11	11
		6	7.5	7.5	11	11	11	11
30L	30000	4	11	11	11	11	15	15
		6	11	11	11	15	15	15
35L	35000	4	11	11	15	15	15	15
		6	11	15	15	15	15	15
40L	40000	4	15	15	15	18.5	18.5	18.5
		6	15	15	18.5	18.5	18.5	18.5

Note: Characters in yellow are standard motor power input in standard ESP, others power input correspondence others customized ESP.

6. Motor and Fan

6.1 Suspended type

Model – **MKS/D**			**02D**	**03D**	**04D**	**05D**	**06D**	**07D**
Fan	Brand	-	Yilida					
	Type	-	Centrifugal fan					
	Model	-	SYT7-7L	SYT9-9	SYT9-7L2	SYT9-7L2	SYT9-9L2	SYT10-10L2
Motor	Brand	-	WanNan					
	Type	-	three-phase asynchronous motor					
	Power supply	-	380V-3Ph-50Hz					
	Model	-	YE2-80M2-4	YE2-80M2-4	YE290S-4	YE2-90L-4	YE2-100L1-4	YE2-100L1-4
	Insulation class	-	F					
	Safe class	-	IP55					
	Output	W	750	1100	1100	2200	2200	2200
	Speed(Hi)	r/min	1390	1390	1390	1420	1420	1420

Model – **MKS/D**			**08D**	**09D**	**10D**	**12D**	**15D**
Fan	Brand	-	Yilida				
	Type	-	Centrifugal fan				
	Model	-	SYT10-10L2	SYT12-9L2	SYT12-12L2	SYT12-12L2	SYT15-11L2
Motor	Brand	-	WanNan				
	Type	-	three-phase asynchronous motor				
	Power supply	-	380V-3Ph-50Hz				
	Model	-	YE2-100L1-4	YE2-100L2-4	YE2-100L2-4	YE2-112M-4	YE2-132S-4
	Insulation class	-	F				
	Safe class	-					
	Output	W	2200	3000	3000	4000	5500
	Speed(Hi)	r/min	1420	1420	1420	1440	1450

6.2 Horizontal type

Model – **MKS/C**			**05W**	**06W**	**08W**	**10W**	**15W**
Fan	Brand	-	Yilida				
	Type	-	Centrifugal fan				
	Model	-	SYT12-12L	SYT12-12L	SYT15-15L	SYT15-15L	SYT15-11L2
Motor	Brand	-	WanNan				
	Type	-	three-phase asynchronous motor				
	Power supply	-	380V-3Ph-50Hz				
	Model	-	YE2-90L-4	YE2-100L1-4	YE2-100L1-4	YE2-100L2-4	YE2-132S-4
	Insulation class	-	F				
	Safe class	-	IP55				
	Output	W	1500	2200	2200	3000	5500
	Speed(Hi)	r/min	1053	1083	862	899	967

Model – **MKS/C**			**20W**	**25W**	**30W**	**35W**	**40W**
Fan	Brand	-	Yilida				
	Type	-	Centrifugal fan				
	Model	-	SYT18-13R2	SYT18-18R2	SYT18-18R2	SYD500R	SYD500R
Motor	Brand	-	WanNan				
	Type	-	three-phase asynchronous motor				
	Power supply	-	380V-3Ph-50Hz				
	Model	-	YE2-132M-4	YE2-132M-4	YE2-160M-4	YE2-132M-4	YE2-132M-4
	Insulation class	-	F				
	Safe class	-					
	Output	W	7500	7500	11000	7500*2	7500*2
	Speed(Hi)	r/min	812	766	818	766	766

6.3 Vertical type

Model – **MKS/C**			**03L**	**04L**	**05L**	**06L**	**08L**	**10L**
Fan	Brand	-	Yilida					
	Type	-	Centrifugal fan					
	Model	-	SYT9-9L	SYT10-10L	SYT12-12L	SYT12-12L	SYT15-15LK	SYT15-15LK
Motor	Brand	-	WanNan					
	Type	-	three-phase asynchronous motor					
	Power supply	-	380V-3Ph-50Hz					
	Model	-	YE2-90S-4	YE2-90L-4	YE2-100L1-4	YE2-100L1-4	YE2-100L2-4	YE2-112M-4
	Insulation class	-	F					
	Safe class	-	IP55					
	Output	W	1100	1500	2200	2200	3000	4000
	Speed(Hi)	r/min	1428	1330	1181	1117	1007	1069

Model – **MKS/C**			**15L**	**20L**	**25L**	**30L**	**35L**	**40L**
Fan	Brand	-	Yilida					
	Type	-	Centrifugal fan					
	Model	-	SYT15-11L2	SYT15-15L2	SYT18-18R2	SYT18-18R2	SYD450R2	SYD450R2
Motor	Brand	-	WanNan					
	Type	-	three-phase asynchronous motor					
	Power supply	-	380V-3Ph-50Hz					
	Model	-	YE2-132S-4	YE2-132M-4	YE2-132M-4	YE2-160M-4	YE2-160L-4	YE2-160L-4
	Insulation class	-	F					
	Safe class	-	IP55					
	Output	W	5500	7500	7500	11000	15000	15000
	Speed(Hi)	r/min	1048	1044	831	882	891	891

7. Installation

■ Unit Placement

If the unit needs to be placed outside before installing, please keep the unit out of dust, rain, snow and away from animals, and maintain the surface protection package not damaged. Don't expose the unit under strong sunshine in summer, otherwise the insulation panel may be deformed. If the unit needs to be installed outside, please indicate while ordering, because the unit cannot be staked if the complete units have been packed.

■ Unit Installation notes

1. Check carefully before installing. Please contact your dealer for repairing or changing if the following problems are observed.
   a. The surface are seriously deformed or damaged;
   b. Components inside the unit are broken;
   c. Fan and motor are loose.
2. The unit should be installed by professionals who know about the local regulations. Make sure to install the unit carefully and avoid any damage.
3. For the sake of safety, the supporter for ceiling mount units must be strong enough to afford the unit's weight and vibration while operating. Keep the unit and drain pan at the horizontal to avoid condensing water overflow. Installing the rubber spring or shock absorber to reduce vibration noise while installing. For the horizontal and vertical units, the unit should be placed on a firm and flat place. The suggested foundation height is 150mm, and the length and width are determined by the unit dimension. Water drain channel should be installed around the foundation.
4. Around the unit, especially at the side of the door (panel) and outside connected water pipe, 700~800mm length should be reserved for service and maintenance and 600mm for taking out the filter. For piping installation, enough space is also needed to be reserved.
5. The water discharge and air discharge valves are set on the heat exchanger. Open the air discharge valve while filling the water. Close the valve after the air is completely discharge. Discharge the water inside the heat exchanger for long time stoppage.
6. The units should be installed at proper positions according to different conditions.

■ Suspended Unit Installation

There are four holes equipped on the suspended unit base. Four suspenders hang the unit indoor through nuts and shock absorbers. Do adjust tightness of the Binding mechanism to ensure no vibration, no abnormal noise. The unit should be adjusted horizontal to enable better drainage of condensation water without damaging dynamic balance of fan which can extend unit life.

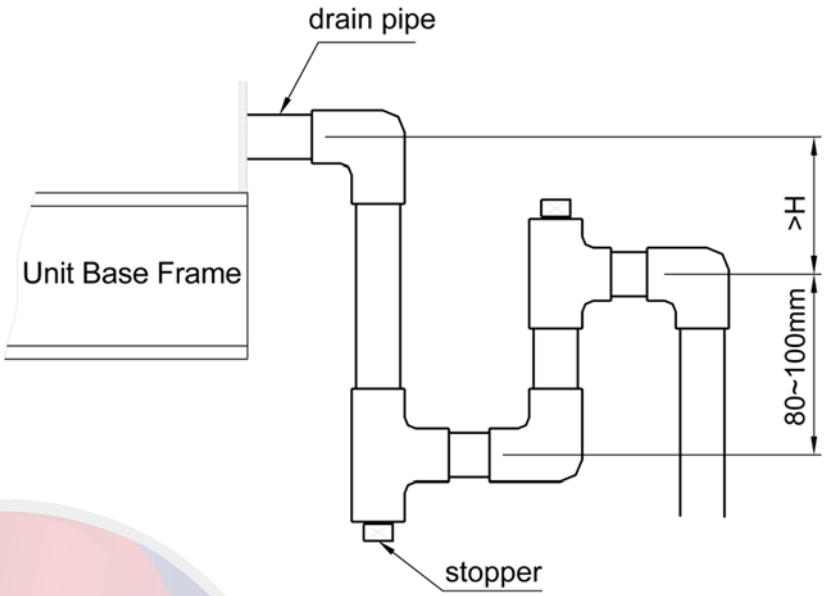
■ Horizontal, Vertical Unit Installation

Horizontal and vertical unit is installed on the ground. Unit foundation should be concrete or metal platform and it's dimensions should meet unit length add 100mm, width add 100mm and height add 100-200mm. drain and floor drain should be equipped around the unit, and the error of unit platform diagonal can not exceed 5mm to ensure unit horizontally installed.

■ Water System Installation

1. Clean the water pipes before installation and install the filter at the water inlet of water pump.

2. The condensing water pipes are at the bottom of unit. Set water discharge elbow according to the static pressure to ensure the water discharging and avoid strange smell from entering the unit. (Refer to the following map.)



H=Eternal Static Pressure(mmH_2O）+20mm

3. Use plies to connecting the water entering and leaving pipes with even strength. The strength should exceeds 250.8N·m(21kgf·m)to avoid cracking the heat exchanger and causing water leakage. The water supply and return pipes must be equipped with valve outside the unit (except the drain pipes) to cut off the water flow while adjusting the flow volume and check and repair. The unit outside must be well insulated.

4. For the heat exchanger using cool and hot water as the media, the water entering pipes are at the bottom and the water leaving pipes are at the top. For the heat exchanger using steam as media, the steam entering pipes are at the top and water leaving pipes are at the bottom. Connecting the pipes should refer to the labels on the unit.

5. All the water pipes must be sealed and water leakage is not allowed.

6. The unit should not afford the weight of water entering and leaving pipes.

7. The refrigerant media water temperature should not be lower than 5℃ for standard units. Hot water temperature should not be higher than 80℃ and the suggested temperature is 60℃.

■ Air System Installation

1. For fresh air unit, fresh air damper is suggested to install for adjusting the fresh air volume, which should be adjusted to avoid freezing the coil by large volume in winter.

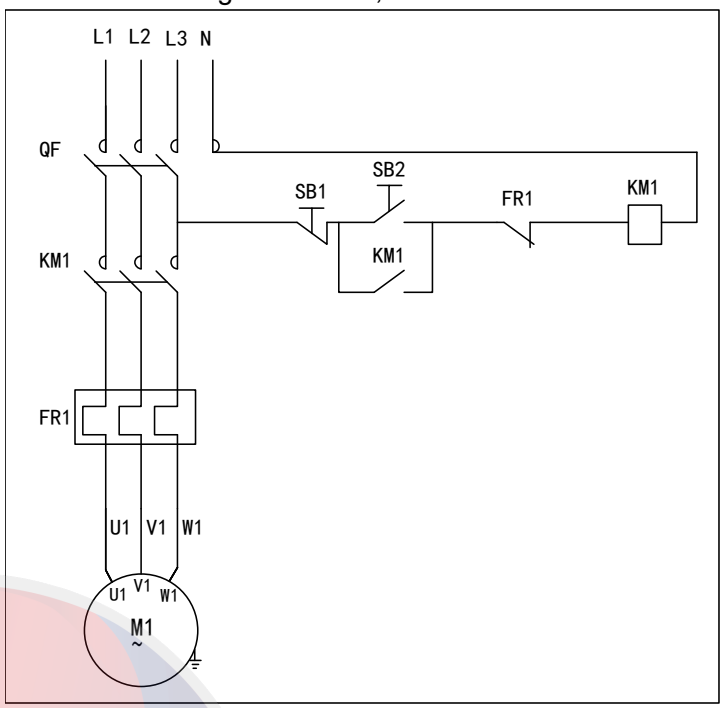
2. The air ducts must be sealed to avoid air leakage.

3. The air ducts should be connected with unit by soft connector. The unit should not afford the weight of air ducts or other additional objects.

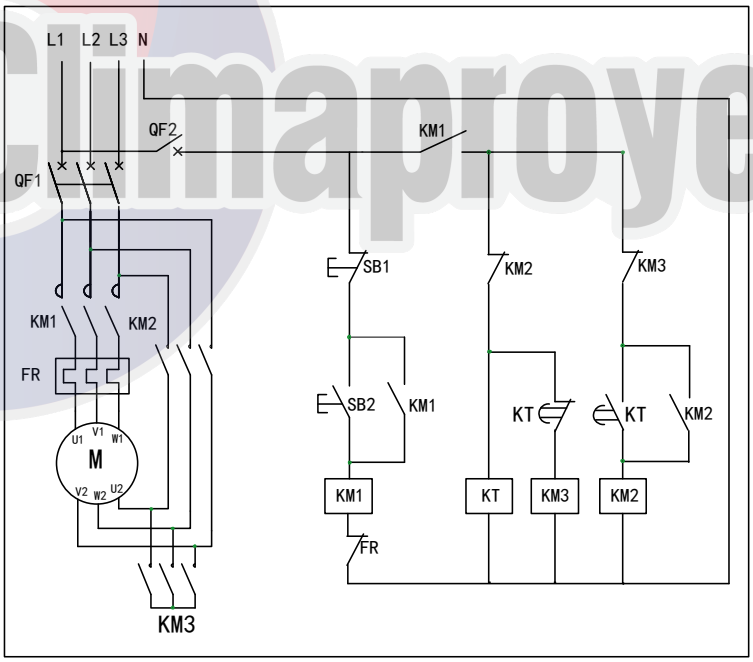
■ Electrical Installation

1. Electrical Diagrams

Wirings of standard unit are shown in the diagrams below, for reference.



direct starting



Y– Δ start (step start)

Check if the power supply meets the unit requirement and voltage exceed ±10% of rated voltage. The unit use the power supply with 3 phase and 380V/3N~/50Hz.

2. All requirements of components such as wiring cable, terminal must accord with Unit nameplate parameter requirements. There are some critical parameters such as motor power, current, air f low rate, air Pressure, water temp., water flow rate and so on. The selection of transformer, no fuse breaker, wiring cable should base on motor current, and more than 10% capacity must be leaved as safety capacity.

3. Connect power wire according to electrical diagram and ensure all nut is fastened. Power voltage and frequency must accord with unit requirements. voltage fluctuate value must less than 5%, frequency fluctuate value less than

2% when Unit running.

4. Wiring should have good insulation and protect equipment, and insulation resistance should be more than 10 MΩ when electrical components bearing 500V. Unit shell should have reliable ground protection equipment.

5. Check whether three phase (U,V,W) and PE terminal is firmly connected and whether power phase sequence accord with unit requirement before unit is electrified.

■ Electrical Inspection

1. It's strongly recommended that voltage fluctuate value can't exceed ±5% and frequency fluctuate value can't exceed ±2%.

2. Check whether electrical wiring accord with electrical wiring diagram and Local electrical installation criterion.

3. Check all electrical equipment connected with motor, light and control equipment and check whether wiring is correct, whether power accord with nameplate requirements, whether short circuit, overload and phase loss protect equipment is installed in power inlet side. All ground equipment must be properly installed.

8. Test Run

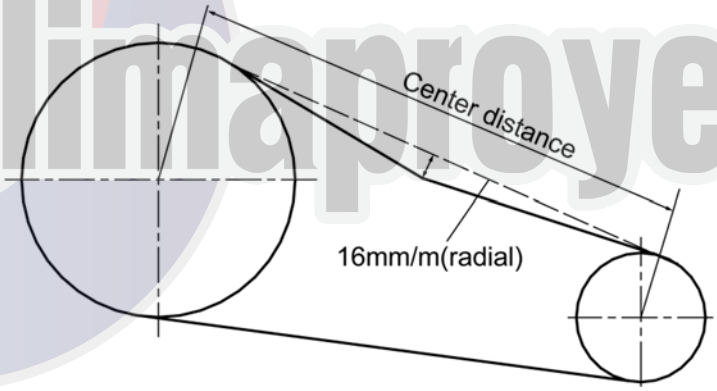
1. Open the air discharge valve before operation. After the air inside the coil and pipes are discharged, close the air discharge valve.
2. Check whether the temporary vibration absorbers were installed and take them off if they were.
3. Before starting the fan, rotate the fan by hand to see if any abnormal noise exists. While starting the fan, check whether its rotation direction is correct. If the direction is wrong, stop the fan and adjust the power supply phase.
4. Check if the electricity exceeds the rated one to avoid overload and burning the motor.
5. For stoppage in winter, close the fresh air damper first and then discharge the water in the coil clearly or open the hot water circulation to protect the heat exchanger from being frozen.
6. The unit should be taken care of by professionals. Check the Unit operation status regularly during operation, and solve problems immediately.

9. Daily Maintenance

Caution: The service and maintenance must be done when the unit is stopped!

Check the unit operation regularly. Regular and efficient maintenance will improve the unit reliability and increase its lifespan.

1. During the halt of the unit, fill the heat exchanger with water to avoid rust. When the ambient temperature is under 0℃ in winter, the water inside the pipes need to be discharged to avoid freezing. (The water discharge valve is set at the bottom of water entering pipes.)
2. To ensure the high efficiency of heat exchanger, the air filter should be washed once a month. If the air environment is bad, the filter needs to be washed once a week.
3. The heat exchanger should be washed regularly. Clean the water build up after 2~3 years. If it is permitted, use soft water.
4. The drain pan and elbow should be cleaned once a year.
5. Check the soft connector of air duct regularly. If any air leakage exists, make it up immediately.
6. Adjust the tightness of belt regularly. Proper belt tightness is important for the unit lifespan. If the belt is too tight, the belt and bearing may be overloaded, which will reduce their lifespan. If the belt is too loose, the belt may slide and produce friction, which will also reduce its lifespan. There are two methods of judging the degree of tightness: one is to use the measure tools. According to the central distance and belt model to determine the degree of tightness. If the measure tool is not provided, adjust the belt until screaming sound has ceased. After adjusting the belt, check if the belts are on one line before operating the fan. New belts may be stretched at the beginning of running. Check the belt tightness after operating for several days.
7. Diagram of belt tightness and relative center distance.



Belt Section Area	Power of pushing the belt down for 16mm/m(refer to diagram)		
	Tightness (Dia. of small belt) mm	N	kgf
SPZ	56-95	13-20	1.3-2.0
	100-140	20-25	2.0-2.5
SPA	80-132	25-35	2.5-3.6
	140-200	35-45	3.6-4.6
SPB	112-224	45-65	4.6-6.6
	236-315	65-85	6.6-8.7
SPC	224-335	85-115	8.7-11.7
	375-560	115-150	11.7-15.3

10. Trouble Shooting

Faults phenomenon	Possible Reasons	Resolvent
Fan impeller vibration	Impeller off-centre、part breakdown Fan bearing support loose, bearing breakdown、oil starvation	Replace fan impeller Tightening bearing support, feed oil or replace
Fan high vibration	Fan fastening bolt is loose The pressure, air volume and system do not match	Check all the bolts and fasten Contact the technical supporter, re-match
Fan high nosie	The pressure, air volume and system do not match, resulting in ultra-air volume	Contact the technical supporter, re-match
Unit water-drifted, water leakage	The pressure, air volume and system do not match, causing the heat exchanger face velocity being excessive, condensated water drifting to the lateral of the plate, the unit leaking Heat exchanger leak	Contact the technical supporter, re-match Fill the gaps or replace the heat exchanger
System small air volume	The fan is reversal, The pressure, air volume and system do not match, resulting in less air volume in the air outlet Filter, dirty coil block The air pipe system is short-circuit, air leakage The fan air inlet block, the length of the air outlet pipe is not enough or there is no straight pipe	Adjust the motor phase sequence Contact the technical supporter, re-match the pulley Clean the filter and coil Inspect the air pipe system Inspect the air pipe system and increase the length of straight pipe
Belt pulley、belt shake	The pulley connection is loose The motor pulley and fan pulley are not in the same plane	Tighten the pulley, adjust the two pulley for parallel Re-adjust fastening to protect both sides to coincide completely
Belt pulley、belt shake	The pulley connection is loose The motor pulley and fan pulley are not in the same plane	Tighten the pulley, adjust the two pulley for parallel Re-adjust fastening to protect both sides to coincide completely
Belt is esay to break	The belt is too tight or too loose The motor pulley and fan pulley are not in the same plane The pressure, air volume and system do not match, resulting in ultra-air volume, the belts being overload	Re-adjust belt tension to ensure a proper belt tension Re-adjust fastening to protect both sides to coincide completely Contact the technical supporter, and re-match
Belt pulley abnormal sound	Pulley is loose	Tighten the pulley
Motor vibration	The motor fastening bolts is loose The motor Bearing is oil starvation, damaged	Fix the motor fastening bolts Check the bearing, supply oil to it or the replace
Motor high current sound	The motor current is excessive, and lack of phase	Check the current and the phase sequence
Air pipe periodicity vibration	The system is instability Fan vibration transfer to the air pipe system	Adjust the system Add soft joint between the air vent and air pipe
Air pipe system whistling	The air pipe system is in the cracks, microporous result in high-speed air leakage	Inspect the system, add sealant in the cracks and micropore
Air pipe system squeak	Air pipe design is unreasonable, the air speed is too high Damping joint is too tight	Re-design the air pipe Adjust the damping Joint
Refrigerating capacity is less.	System air volume is not enough Pump head is not enough that causes the system water is small Selection of the unit is small	Analyse by the possibility of small amount of wind Increase the pump Re-select the new unit model

11. After-sales Service & Warranty Repair

1. Contact your dealer for service and maintenance. Improper repair and maintenance may cause water leakage, electric shock and fire.
2. If the unit is required to be moved or reinstalled, please contact your dealer. Improper installation may cause water leakage, electric shock and fire.
3. The product has a warranty period. After installation, the dealer will fill out the warranty application form and give to you. Please check all the listed items and keep it carefully.
4. The warranty period for a complete unit is 14 months starting from the purchase date. Please find details from the warranty application form.
5. During the warranty period，repair and changing components are free if it is caused by the quality of the unit. If you request for free repair, please inform your dealer and provide the warranty application form. Otherwise you may be charged even it is during the warranty period.
6. If request for repair, please provide the following information: Unit Model, Factory Code, Installation Date, Trouble Description, Your Name, Address and Telephone Number.
7. Provide whole life after-sales service. The cost of repair and maintenance may be charged after the warranty period.
8. Besides the daily maintenance, we suggest you to sign the maintenance contract with our professional service company. For details, please contact your dealer.