

**YDS Series**

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**YDS Series**

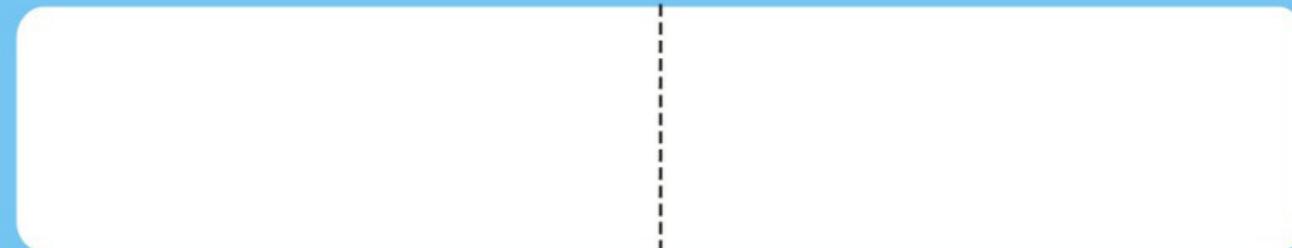


YDS Series

Digital Scroll Technology

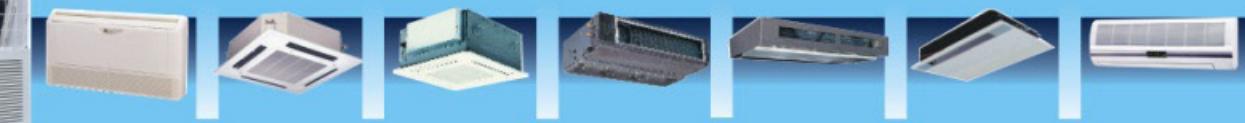
YDS Series

Digital Scroll Technology



**YORK®**

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 **YORK®**



York designs, manufactures, and provides after-sales service world wide for heating, air conditioning and refrigeration applications.

The world has evolved tremendously during the past few years, technology is the word of the 21st Century, and this technology has been embraced by York in providing comfort for you.

Our target is to deliver the products that better fit your needs, with the best quality to satisfy our customer offering them the latest technologies available in the industry, being friendly with the ambient, and offering the best service to you in terms of comfort.

York is 25.000 employees world wide company based in all European Countries.

York is highly aware of the impact of the industrial society on our environment, which is why we are always looking for the highest performance, lowest power consumption, use of green refrigerants, and best use of the natural resources for bringing you comfort whilst preserving our planet.



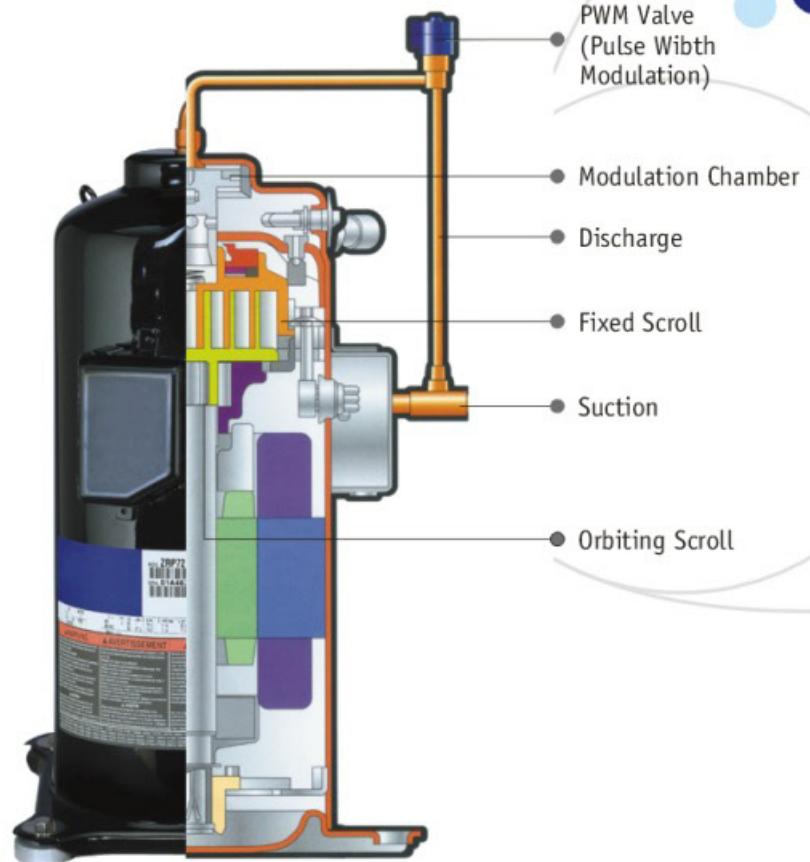
ISO 9001 : 2000  
Certificate No.: CC 454

ISO 14001: 1996  
Certificate No.:CC1417



# YDST Digital Scroll Technology

- Widen the energy adjustment range: from 10% to 100%
- Real stepless energy adjustment.
- PWM solenoid valve comes with long life span, can be used 40 billion times on average, for about 30 years.
- High efficiency and stability of the refrigeration by applying the axial flexible sealing technology.
- Outstanding SEER approved by JIS and ARI.





## Digital Scroll Compressor Operation

Digital Scroll is the first digital scroll compressor with a built-in capability to adjust its cooling power from 10 percent to 100 percent.

Offering a simpler way to automatically adjust, or modulate, a compressor's cooling capability will lead to more wide spread application of systems with part-load capacity operation, and also accelerat integration of the compressor with more sophisticated components, such as variable-speed motors, electronic valves and programmable controls.

Adoption of digital scroll technology and equipment integration will provide end-user

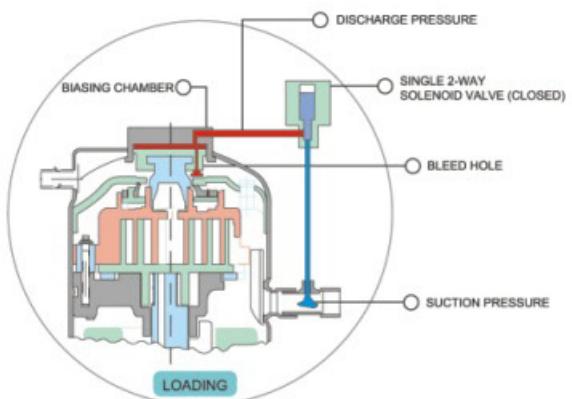
with greater temperature and humidity control options, more energy efficient systems, and lower operating costs.

The digital compressor can adjust its capacity by using the PWM (Pulse Width Modulation) valve, according to the demands of the indoor units.

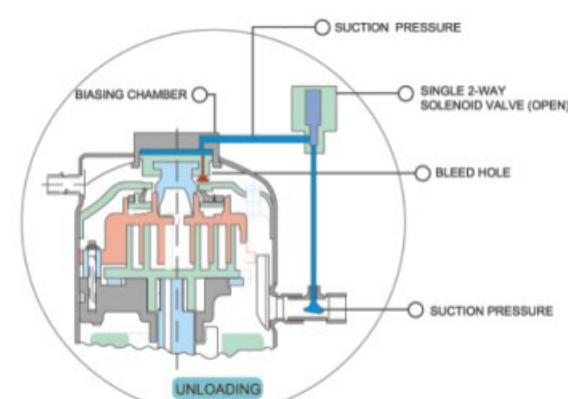
The PWM valve is placed is placed to the upper part of the compressor (modulation chamber) andin the section line.

A microprocesor controls digitally the PWM valve and determines the time that the valve is going to be closed and open for a T=20sec.

### LOADING



### UNLOADING

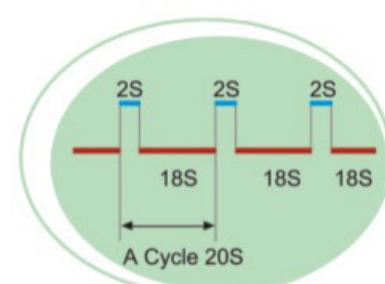
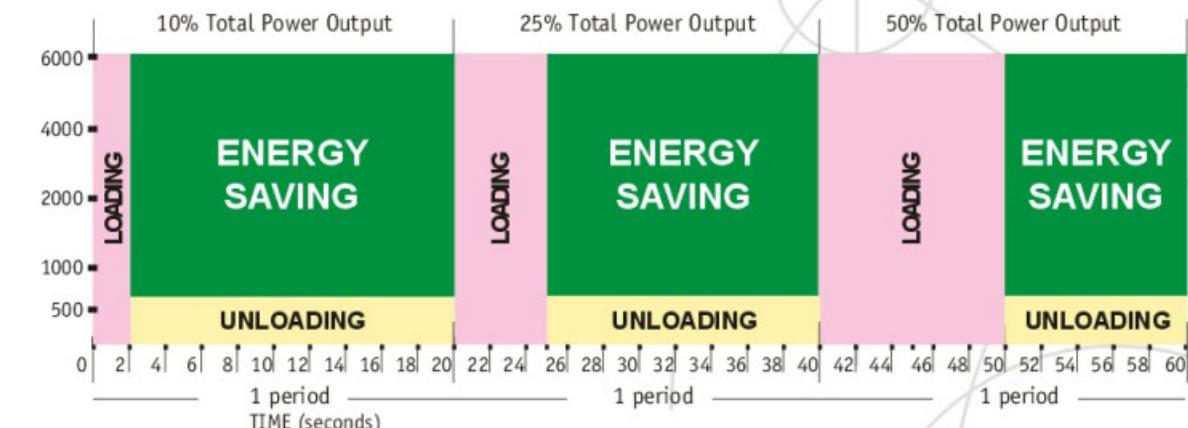


In loading state the PWM valve is closed \* The upper part and the ordinating scroll compressor are ebaged and the refrigerant is compressed.

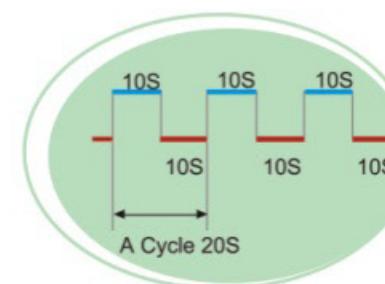
\*The pressure in the modulation chamber is equal to the high pressure.

In the unloading state the PWM is open. The pressure in the modulation chamber is reduced to the low pressure, as a result the upper part of the scroll to move upward and separate 1mm from the orbiting scroll. Due to the separation there is no compression of the refrigerant. It should be noted that the movement of the upper part of the scroll is very small (1mm), consequently the amount of high pressure gas that is bled to the low pressure side is very little.

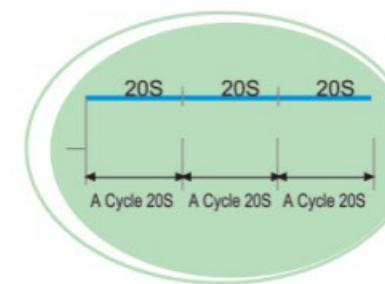
## Controlling compressor Capacity Output



10% Capacity Output



50% Capacity Output



100% Capacity Output

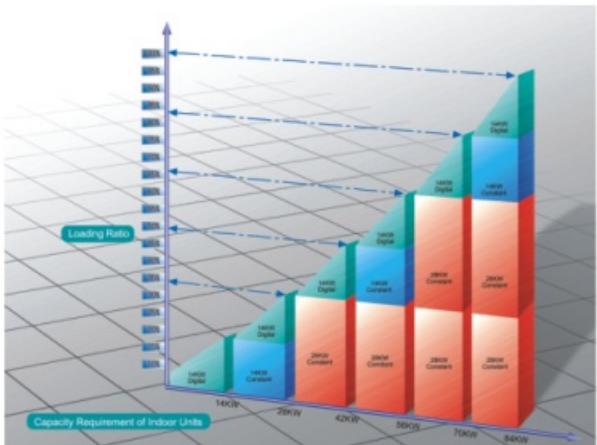
Compressor capacity output is adjusted through loaded and unloaded period, each cycle includes one loaded period and one unloaded period. The different parts of loaded time and unloaded time indicates different capacity output for the outdoor unit.



## Features & Benefits

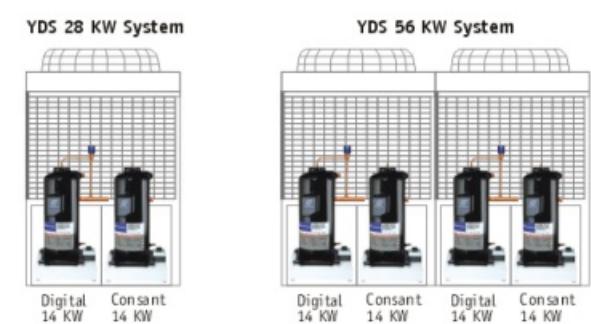
### Stepless capacity modulation, more efficiency

- Digital scroll compressor operates at constant speed during loaded and unloaded period, meeting exactly the capacity demand and increasing system efficiency.
- Dehumidification is excellent across the entire range of system operation.



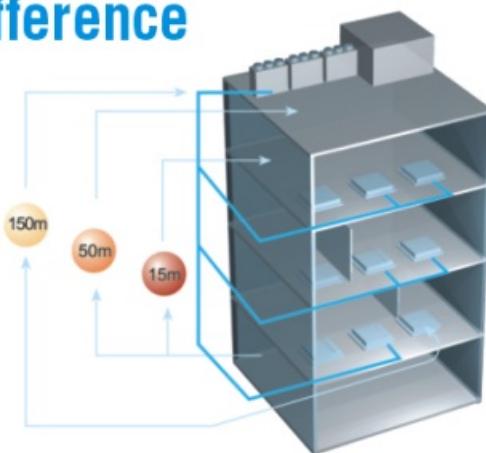
## YDS digital scroll modular multi technology

Taking advantage of the Modular Multi technology, 3 Digital Scroll outdoor units can parallel connected only by one group of copper tubes to expand the maximum capacity up to 84000W. Simplified system architecture leading to reduce system design complexity, increased system reliability and service ability.



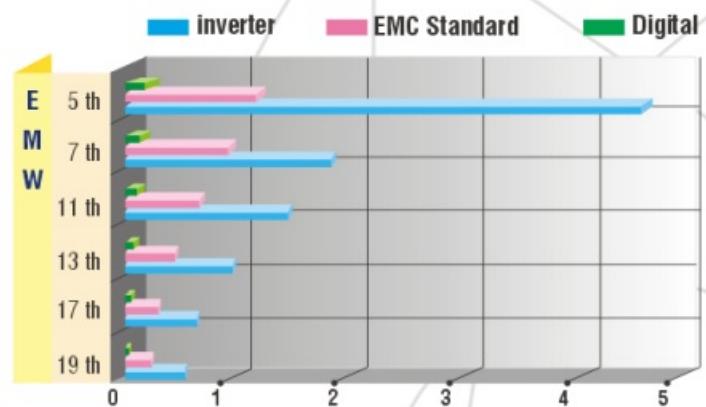
## Long pipe, wide height difference

excellent oil return capability of low capacities and with long pipe lengths.  
125m the max.pipe length between indoor unit and outdoor unit  
50m the max. height difference between indoor unit and outdoor unit  
15m the max. height difference between indoor units



## Comparison of Electromagnetic Interference Digital Scroll versus inverter

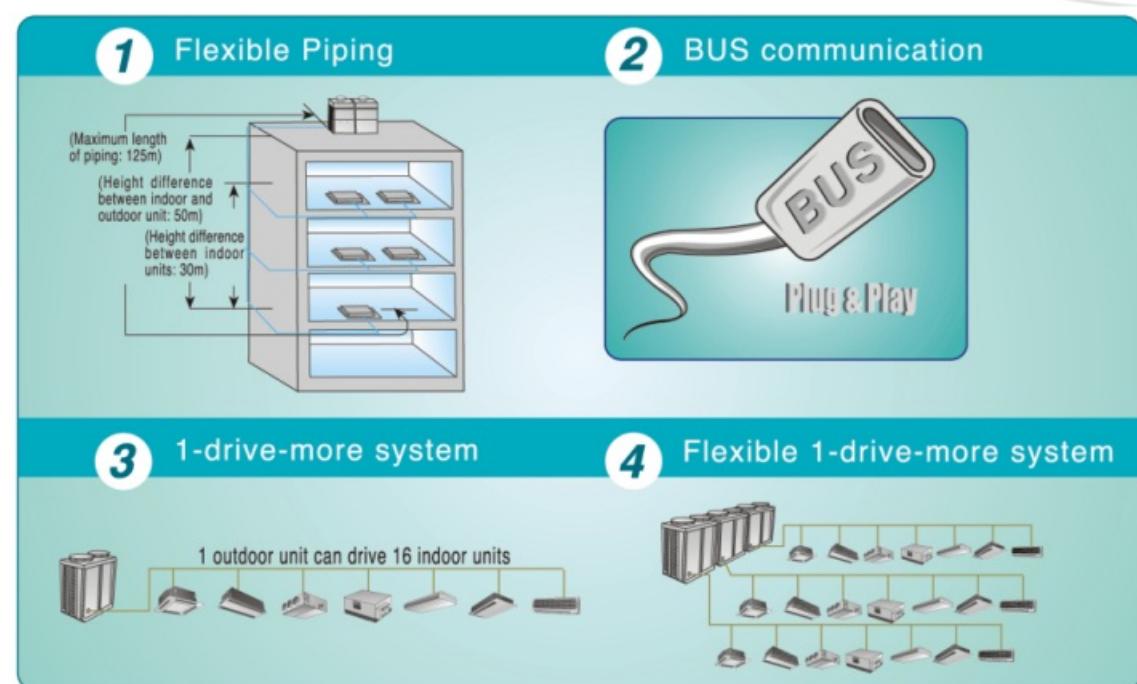
- No electromagnetic interference, thus no need for electronic filters
- low sound and vibration the compressor operates at constant speed causing no issue offrequency noise.



## The sketch of modular multi system

- One outdoor unit can drive 16 indoor units. A modular multi system consists of 3 outdoor units can drive 30 upmost
- The refrigerant can be distributed

automatically and accurately among every indoor unit by distributor.  
3. 64 units can be controlled by only one central controller.





## YDS series line up

- Widen the energy adjustment range: from 10% to 100%
- Real stepless energy adjustment.
- PWM solenoid valve comes with long life span, can be used 40 billion times on average, for about 30 years.
- High efficiency and stability of the refrigeration by applying the axial flexible sealing technology.
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## Outdoor



Outdoor unit

Model		YDS-100WN2	YDS-140WN2	YDS-280W/SN2-810	YDS-280W/SN2-820	YDS-560W/SN2	
<b>Capacity</b>							
Cooling capacity	kW	10,0	14,0	28,0	28,0	56,0	
Heating capacity	kW	11,0	16,0	31,5	31,5	64,0	
<b>Electrical data</b>							
Power supply	Ph-V-Hz	3 - 380V - 50Hz	3 - 380V - 50Hz	3 - 380V - 50Hz	3 - 380V - 50Hz	3 - 380V - 50Hz	
Power input	kW	4,3	5,3	10,8	10,7	19,4	
Rated current	A	7,0	8,5	19,0	17,6	35,0	
Starting current	A	70	35	35	35	35	
<b>Performance</b>							
Air flow rate	m³/h	10.000	5.000	11.000	10.000	20.000	
Noise level	dB(A)	58	56	58	58	60	
<b>Compressor</b>							
Type		Digital scroll	Digital scroll	Digital scroll + Fixed scroll	Digital scroll + Fixed scroll	1xDigital scroll + 3xFixed scroll	
Brand		Copeland	Copeland	Copeland	Copeland	Copeland	
<b>Dimensions</b>							
Net	WxHxD	mm	990x960x360	990x960x360	1.290x1.540x750	997x1.820x880	1.992x1.820x880
Packing	WxHxD	mm	1.120x1.090x435	1.120x1.090x435	1.360x1.720x820	1.105x2.020x1.034	2.110x2.020x1.034
<b>Weight</b>							
Net	kg	101	101	300	245	520	
Gross	kg	106	106	305	260	525	
<b>Refrigerant</b>							
Type		R-407c	R-407c	R-407c	R-407c	R-407c	
Quantity	kg	2,7	2,7	12,0	12,0	24,0	
Control		EXV	EXV	EXV	EXV	EXV	
<b>Refrigerant pipes</b>							
Gas	inch	3/4"	3/4"	1	1	1"	
Liquid	inch	3/8"	3/8"	1/2"	1/2"	3/4"	
Max. piping length	m	50	70	125	125	125	
Max. height difference	outdoor higher	m	20	20	50	50	
	indoor higher	m	20	20	30	30	
	between indoors	m	8	8	15	15	
<b>System match configuration</b>							
Max. No. of indoor	pieces	5	6	16	16	20	

## YDS series line up

## Indoor

Ceiling and floor type  
(3.6 kw to 11.2 kw)



Wall-mounted type  
(2.8 kw to 5.6 kw)



Four-way cassette type  
(2.8 kw to 11.2 kw)



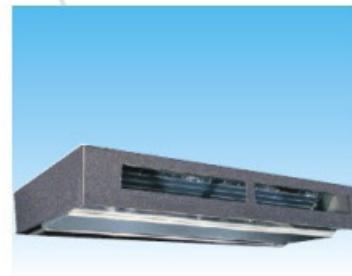
Hi-way cassette type  
600x600 (2.8 kw to 4.5 kw)



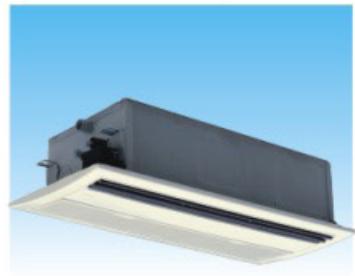
Duct type  
(2200W-14000W)



Slim ducted type  
(2800W - 7100W)



One-way cassette type  
(2.8 kw to 7.1 kw)



High Static duct type  
(7.1 kw to 14 kw)





## One way cassette



Model	YDS-28Q1	YDS-36Q1	YDS-45Q1	YDS-56Q1	YDS-71Q1
<b>Capacity</b>					
Cooling capacity	kW	2.8	3.6	4.5	5.6
Heating capacity	kW	3.2	4.0	5.0	6.3
<b>Electrical data</b>					
Power supply	Ph-V-Hz	1 - 220(-240)V - 50Hz			
Starting current	A	2.2	2.2	3.2	3.6
<b>Performance</b>					
Air flow rate	High / Low	m³/h	470 / 320	500 / 350	780 / 580
Noise level		dB(A)	38	38	42
<b>Dimensions-Indoor unit</b>					
Net	WxHxD	mm	850x235x400	850x235x400	1.200x198x655
Packing	WxHxD	mm	1.080x310x460	1.080x310x460	1.380x265x775
<b>Dimensions-Panel</b>					
Net	WxHxD	mm	1.050x18x470	1.050x18x470	1.420x10x755
Packing	WxHxD	mm	1.120x172x540	1.120x172x540	1.500x110x870
<b>Weight</b>					
Net	Indoor / Panel	kg	23/4	23/4	31/9
Gross	Indoor / Panel	kg	27/7	27/7	38/12
<b>Refrigerant pipes</b>					
Gas		inch	3/4"	3/4"	3/4"
Liquid		inch	3/8"	3/8"	3/8"

## Wall mounted



Model	YDS-22G	YDS-28G	YDS-36G	YDS-45G	YDS-56G
<b>Capacity</b>					
Cooling capacity	kW	2.2	2.8	3.6	4.5
Heating capacity	kW	2.4	3.2	4.0	5.6
<b>Electrical data</b>					
Power supply	Ph-V-Hz	1 - 220(-240)V - 50Hz			
Starting current	A	2.2	2.2	2.2	3.2
<b>Performance</b>					
Airflow rate	m³/h	580	580	610	610
Noise level	dB(A)	34	34	37	37
<b>Dimensions</b>					
Net	WxHxD	mm	790x265x175	790x265x175	920x292x225
Packing	WxHxD	mm	578x375x285	578x375x285	1.015x368x275
<b>Weight</b>					
Net	kg	11	11	11	17
Gross	kg	14	14	14	23
<b>Refrigerant pipes</b>					
Gas		inch	5/8"	5/8"	5/8"
Liquid		inch	3/8"	3/8"	3/8"

## Four way cassette



Model	YDS-28Q4	YDS-36Q4	YDS-45Q4	YDS-56Q4	
<b>Capacity</b>					
Cooling capacity	kW	2.8	3.6	4.5	
Heating capacity	kW	3.2	4.0	5.6	
<b>Electrical data</b>					
Power supply	Ph-V-Hz	1 - 220(-240)V - 50Hz	1 - 220(-240)V - 50Hz	1 - 220(-240)V - 50Hz	
Starting current	A	3.6	3.6	3.6	
<b>Performance</b>					
Airflow rate	Hi/Medium/Low	m³/h	870 / 750 / 640	870 / 750 / 640	1.010 / 920 / 840
Noise level		dB(A)	35	35	38
<b>Dimensions-Indoor unit</b>					
Net	WxHxD	mm	840x240x840	840x240x840	840x240x840
Packing	WxHxD	mm	1.010x340x930	1.010x340x930	1.010x340x930
<b>Dimensions-Panel</b>					
Net	WxHxD	mm	950x40x950	950x40x950	950x40x950
Packing	WxHxD	mm	1.030x145x1.030	1.030x145x1.030	1.030x145x1.030
<b>Weight</b>					
Net	Indoor / Panel	kg	22/6	22/6	25/6
Gross	Indoor / Panel	kg	29/11	29/11	32/11
<b>Refrigerant pipes</b>					
Gas		inch	3/4"	3/4"	3/4"
Liquid		inch	3/8"	3/8"	3/8"

## Four way cassette



Model	YDS-71Q4	YDS-80Q4	YDS-90Q4	YDS-112Q4	
<b>Capacity</b>					
Cooling capacity	kW	7.1	8.0	9.0	
Heating capacity	kW	8.0	9.0	10.0	
<b>Electrical data</b>					
Power supply	Ph-V-Hz	1 - 220(-240)V - 50Hz	1 - 220(-240)V - 50Hz	1 - 220(-240)V - 50Hz	
Starting current	A	4.2	4.2	6.0	
<b>Performance</b>					
Airflow rate	Hi/Medium/Low	m³/h	1.200 / 1.080 / 970	1.200 / 1.080 / 970	1.320 / 1.210 / 1.110
Noise level		dB(A)	42	44	44
<b>Dimensions-Indoor unit</b>					
Net	WxHxD	mm	840x240x840	840x240x840	840x240x840
Packing	WxHxD	mm	1.010x340x930	1.010x340x930	1.010x410x930
<b>Dimensions-Panel</b>					
Net	WxHxD	mm	950x40x950	950x40x950	950x40x950
Packing	WxHxD	mm	1.030x145x1.030	1.030x145x1.030	1.030x145x1.030
<b>Weight</b>					
Net	Indoor / Panel	kg	25/6	25/6	45/6
Gross	Indoor / Panel	kg	32/11	32/11	56/11
<b>Refrigerant pipes</b>					
Gas		inch	3/4"	3/4"	3/4"
Liquid		inch	3/8"	3/8"	3/8"



## Four way cassette 60x60



Model		YDS-28Q4/N1-A	YDS-36Q4/N1-A	YDS-45Q4/N1-A	
<b>Capacity</b>					
Cooling capacity	kW	2.8	3.6	4.5	
Heating capacity	kW	3.2	4.0	5.0	
<b>Electrical data</b>					
Power supply	Ph-V-Hz	1- 220(-240)V -50Hz	1- 220(-240)V -50Hz	1- 220(-240)V -50Hz	
Starting current	A	3.6	3.6	3.6	
<b>Performance</b>					
Air flow rate	High / Low	m³/h	860 / 760	860 / 760	860 / 760
Noise level		dB(A)	35	35	35
<b>Dimensions-Indoor unit</b>					
Net	WxHxD	mm	580x254x580	580x254x580	580x254x580
Packing	WxHxD	mm	750x340x750	750x340x750	750x340x750
<b>Dimensions-Panel</b>					
Net	WxHxD	mm	650x30x650	650x30x650	650x30x650
Packing	WxHxD	mm	715x115x715	715x115x715	715x115x715
<b>Weight</b>					
Net	Indoor / Panel	kg	21,8	21,8	21,8
Gross	Indoor / Panel	kg	30,5	30,5	30,5
<b>Refrigerant pipes</b>					
Gas		inch	3/4"	3/4"	3/4"
Liquid		inch	3/8"	3/8"	3/8"

## High Static Duct type



Model		YDS-71T1	YDS-80T1	YDS-90T1	YDS-112T1	YDS-140T1	
<b>Capacity</b>							
Cooling capacity	kW	7,1	8,0	9,0	11,2	14,0	
Heating capacity	kW	8,0	9,0	10,0	12,5	16,0	
<b>Electrical data</b>							
Power supply	Ph-V-Hz	1- 220(-240)V -50Hz					
Starting current	A	3,0	3,0	4,5	4,5	4,5	
<b>Performance</b>							
Airflow rate	High / Low	m³/h	1.300 / 650	1.300 / 650	2.200	2.200	2.200
Noise level		dB(A)	48	48	53	53	53
<b>Dimensions</b>							
Net	WxHxD	mm	850x380x660	850x380x660	1.200x380x660	1.200x380x660	1.200x380x660
Packing	WxHxD	mm	1.075x473x775	1.075x473x775	1.425x473x775	1.425x473x775	1.425x473x775
<b>Weight</b>							
Net		kg	52	52	65	65	65
Gross		kg	57	57	72	72	72
<b>Refrigerant pipes</b>							
Gas		inch	3/4"	3/4"	3/4"	3/4"	
Liquid		inch	3/8"	3/8"	3/8"	3/8"	

## Ceiling & Floor type



Model		YDS-36DL	YDS-45T2	YDS-56 DL	YDS-71T2	YDS-80T2	YDS-90 T2	YDS-112T2	
<b>Capacity</b>									
Cooling capacity	kW	3,6	4,5	5,6	7,1	8,0	9,0	11,2	
Heating capacity	kW	4,0	5,0	6,3	8,0	9,0	10,0	12,5	
<b>Electrical data</b>									
Power supply	Ph-V-Hz	1-220(-240)V-50Hz							
Starting current	A	5,4	5,4	5,4	5,4	5,4	4,6	4,6	
<b>Performance</b>									
Air flow rate	High / Low	m³/h	800 / 650	800 / 650	800 / 650	1.000 / 850	1.200 / 1.050	1.200 / 1.050	1.400 / 1.200
Noise level	High / Low	dB(A)	42 / 38	42 / 38	42 / 38	45 / 40	45 / 40	45 / 40	45 / 40
<b>Dimensions</b>									
Net	WxHxD	mm	980x600x220	980x600x220	980x600x220	1.200x600x220	1.200x600x220	1.200x600x220	1.200x600x220
Packing	WxHxD	mm	1.104x730x370	1.104x730x370	1.104x730x370	1.324x730x370	1.324x730x370	1.324x730x370	1.324x730x370
<b>Weight</b>									
Net		kg	28	28	28	32	32	32	32
Gross		kg	35	35	35	40	40	40	40
<b>Refrigerant pipes</b>									
Gas		inch	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Liquid		inch	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"



## Slim duct

Model		YDS-28T3	YDS-36T3	YDS-45T3	YDS-56T3	YDS-71T3	
<b>Capacity</b>							
Cooling capacity	kW	2,8	3,6	4,5	5,6	7,1	
Heating capacity	kW	3,2	4,0	5,0	6,3	8,0	
<b>Electrical data</b>							
Power supply	Ph-V-Hz	1- 220(-240)V - 50Hz					
Starting current	A	3,1	3,1	3,2	3,3	3,8	
<b>Performance</b>							
Air flow rate	Hi/Medium/Low	m³/h	540 / 480 / 420	540 / 480 / 420	860 / 740 / 660	860 / 740 / 660	860 / 740 / 660
Noise level		dB(A)	38	38	42	42	42
<b>Dimensions</b>							
Net	WxHxD	mm	850x235x400	850x235x400	1.200x198x655	1.200x198x655	1.200x198x655
Packing	WxHxD	mm	1.080x310x460	1.080x310x460	1.380x265x775	1.380x265x775	1.380x265x775
<b>Weight</b>							
Net		kg	21	21	30	30	30
Gross		kg	28	28	37	37	37
<b>Refrigerant pipes</b>							
Gas		inch	3/4"	3/4"	3/4"	3/4"	3/4"
Liquid		inch	3/8"	3/8"	3/8"		



## Duct type



Model		YDS-22T2	YDS-28T2	YDS-36T2	YDS-45T2	YDS-56T2
<b>Capacity</b>						
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6
Heating capacity	kW	2.5	3.2	4.0	5.0	6.3
<b>Electrical data</b>						
Power supply	Ph-V-Hz	1 - 220(-240)V - 50Hz				
Starting current	A	4.9	4.9	4.9	3.9	3.9
<b>Performance</b>						
Airflow rate	High / Low	m³/h	480 / 390	570 / 450	570 / 450	1.000 / 850
Noise level		dB(A)	35	35	35	38
<b>Dimensions</b>						
Net	WxHxD	mm	550x320x800	550x320x800	550x320x800	1.000x298x800
Packing	WxHxD	mm	755x370x930	755x370x930	755x370x930	1.205x370x930
<b>Weight</b>						
Net	kg	26	26	26	46	46
Gross	kg	34	34	34	54	54
<b>Refrigerant pipes</b>						
Gas	inch	3/4"	3/4"	3/4"	3/4"	3/4"
Liquid	inch	3/8"	3/8"	3/8"	3/8"	3/8"

## Duct type



Model		YDS-71T2	YDS-80T2	YDS-90T2	YDS-112T2	YDS-140T2
<b>Capacity</b>						
Cooling capacity	kW	7.1	8.0	9.0	11.2	14.0
Heating capacity	kW	8.0	9.0	10.0	12.5	16.0
<b>Electrical data</b>						
Power supply	Ph-V-Hz	1 - 220(-240)V - 50Hz				
Starting current	A	9.5	9.5	9.0	9.0	11.0
<b>Performance</b>						
Airflow rate	High / Low	m³/h	1.300 / 1.100	1.300 / 1.100	1.800 / 1.600	1.800 / 1.600
Noise level		dB(A)	42	42	44	44
<b>Dimensions</b>						
Net	WxHxD	mm	1.000x298x800	1.000x298x800	1.350x298x800	1.350x298x800
Packing	WxHxD	mm	1.205x370x930	1.205x370x930	1.555x370x930	1.555x370x930
<b>Weight</b>						
Net	kg	46	46	60	60	60
Gross	kg	54	55	70	70	70
<b>Refrigerant pipes</b>						
Gas	inch	3/4"	3/4"	3/4"	3/4"	3/4"
Liquid	inch	3/8"	3/8"	3/8"	3/8"	3/8"

## Control Monitor Options

