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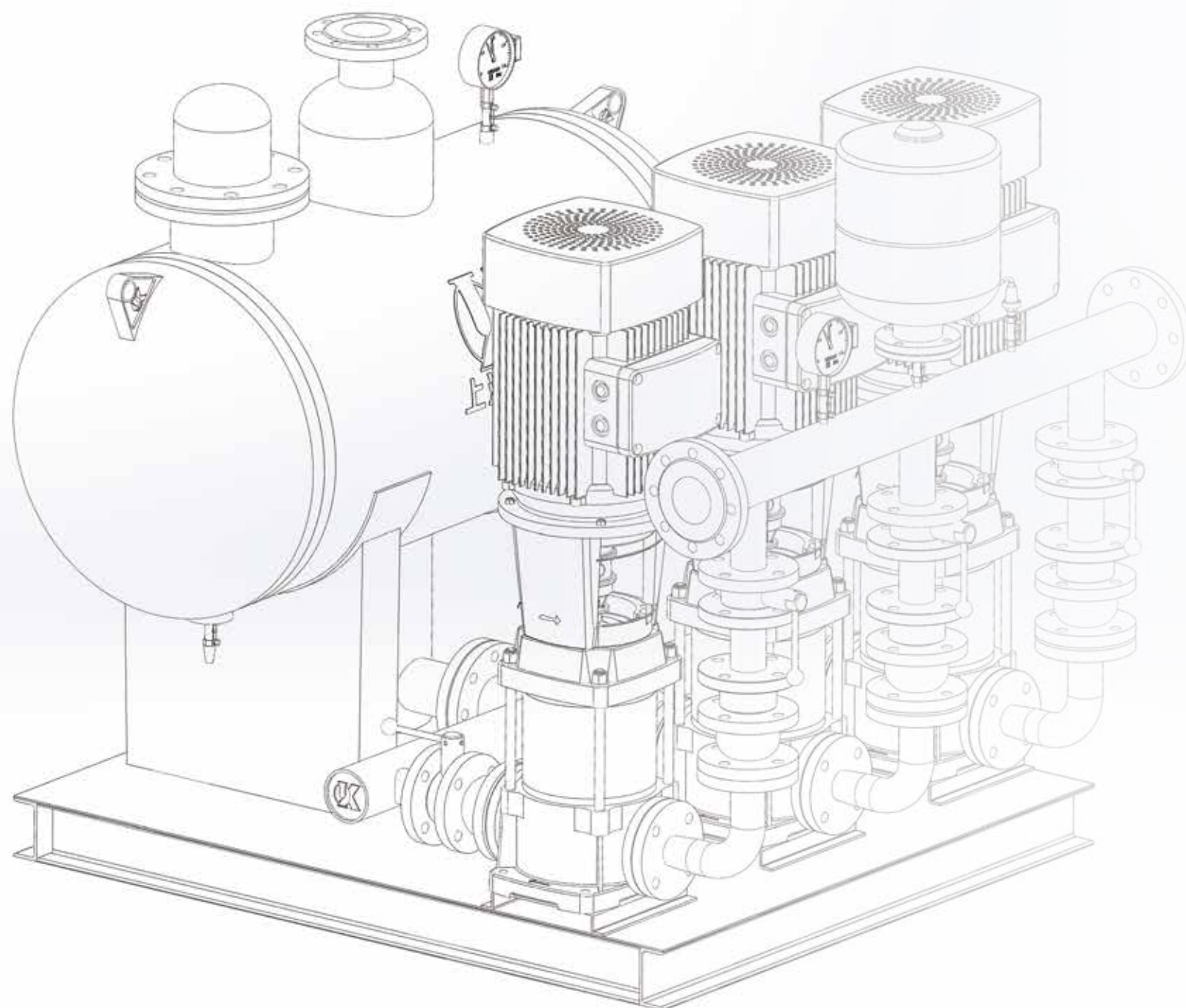
Where there is Kaiquan, there is water!



ISO9001 2015 版国际质量体系认证
ISO9001 Certified(version 2015)

WFY IV 无负压 叠压供水设备

WFY IV Series Superimposed Water Supply Equipment



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Aerial View of Shanghai Industrial Park © Shanghai Kaiquan 2015

Introduction of Shanghai Kaiquan Group

Shanghai Kaiquan group is a large comprehensive pump company integrating design, production and sales of pumps, water supply equipment and pump control equipment. It is a leading enterprise in China's pump industry. At present, the group has more than 5000 employees, 80% of whom have college degree or above, including more than 750 engineering and technical personnel. They are mainly composed of national well-known pump experts, professors, Ph.D. masters, middle and senior engineers, forming a echelon talent structure with innovative thinking. With a total assets of 2.5 billion yuan, it has 7 enterprises and 5 industrial parks in Shanghai, Zhejiang, Hebei, Liaoning and Anhui provinces, covering a total area of nearly 1000 mu and a productive building area of 350000 square meters.

Shanghai Kaiquan group has won the "Shanghai Quality Gold Award", "Shanghai top 100 private enterprises ranked fourth", "Shanghai top 100 science and technology enterprises", "China Quality Credit Grade AA", "national contract credit grade AAA", "quality, reputation, excellent service enterprise", "China's most competitive commodity trademark", "national advanced enterprise culture construction unit" and other honorary titles. In 2013, Kaiquan was selected into the top 500 of China's machinery industry for the third consecutive year, and ranked first in the pump industry.

Product Overview

Overview of Non-Negative Pressure

Connect directly to the municipal water supply network. Using steady flow compensation and vacuum suppression technology. Use the pressure of the municipal water supply network to directly pressurize the water supply. And the water supply equipment that does not generate negative pressure to the pressure of the pipe network and can stabilize and regulate the water volume is called the non-negative pressure (or overlapping) water supply equipment.

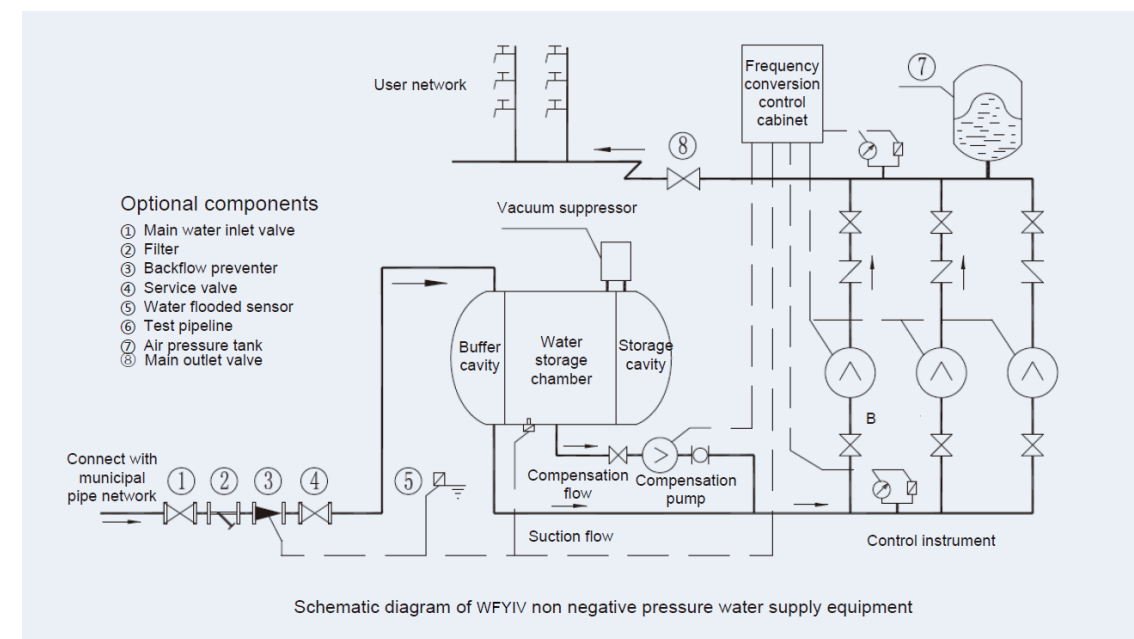
Kaiquan relies on years of mature technology and rich experience in non-negative pressure water supply. Developed and distributed a new generation of WFYIV high-end non-negative pressure water supply equipment, which has outstanding performance advantages in terms of water supply safety, reliable operation, water saving and sanitation, high efficiency and energy saving, and intelligent monitoring.

Steady Current Compensation Technology

The most important feature of superposed water supply is sanitation and energy saving, but without effective technical measures, it will bring two new problems at the same time, that is, the impact of sudden change of pump flow on the official website; The second is the problem of excessive suction during the peak period. The most fundamental solution is two-way buffer and peak storage compensation.

The characteristics of Kaiquan WFY IV steady flow compensation technology are as follows:

- Bidirectional buffer (both to prevent the formation of negative pressure, and prevent overpressure tube explosion), 0 delay;
- Independent parallel compensation, no need for electric current limiting + main pump high head coordination, can achieve minute level compensation capacity;
- Intelligent controllable compensation, when the most needed to input compensation, and compensation flow and compensation time easy to control and adjust;
- Compensation is safe and reliable, the compensation device is far more reliable than the flow controller (electric limit valve), and because of the parallel compensation measure, even if the compensation facility failure will not affect the normal water supply;



Operation Principle

- 1) Stacking operation: on the basis of municipal pressure, make up for the difference (pressure operation, energy-saving operation). During this period, the steady flow tank mainly plays a buffer role.
- 2) Compensation operation: during the peak period of water supply, or when the municipal pressure is near the lower limit, or when the renewal period is reached, the compensation facilities will be put into operation automatically. It can realize the compensation water quantity of design flow 30s ~ 300s.
- 3) Depressurization operation: after compensation operation, if the municipal pressure still can't return to normal, the water supply pressure will be automatically reduced. In low frequency depressurization operation, the equipment can only provide part of the user's flow. After the municipal pressure is normal, the water supply capacity will be restored to 100%.
- 4) Low pressure protection: when the pressure of municipal pipe network reaches the lower limit quickly, it is considered that there is a problem with the water source and the operation is prohibited. After the pressure is restored, the operation is restarted.

Main and Standby Redundant Double PLC Control System

With the industrial grade, high performance programmable controller PLC as the control core, using double pressure inspection, according to the user's water consumption and the municipal pipe network water supply situation, realize the speed control and intelligent dispatch of non-negative pressure water supply equipment.

WFYIV control cabinet adopts redundant two PLC control systems, main and spare, so that the main PLC failure caused by lightning, surge and other accidents can be manually switched to the standby control system, which can still meet the user's automatic constant pressure water supply, and the control system is more secure and reliable.

High Performance Digital PID

Adopts a high-performance, digital and self-tuning PID module specially developed for pressurized water supply system to realize constant pressure, closed-loop speed regulation, strong anti-interference ability and sensitive and rapid dynamic regulation. Constant pressure accuracy ≤ 0.01MPa, stability time ≤5s.High performance digital PID to ensure the comfort of equipment water supply.

Remote Intelligent Monitoring

Kaiquan monitoring center 24/7 real-time monitoring of water pump running state, inlet pressure, outlet pressure, operating frequency, current and voltage, etc. Equipment status early warning, alarm, expert diagnosis;Fault alarm message to inform pump station maintenance.

Main Control Functions

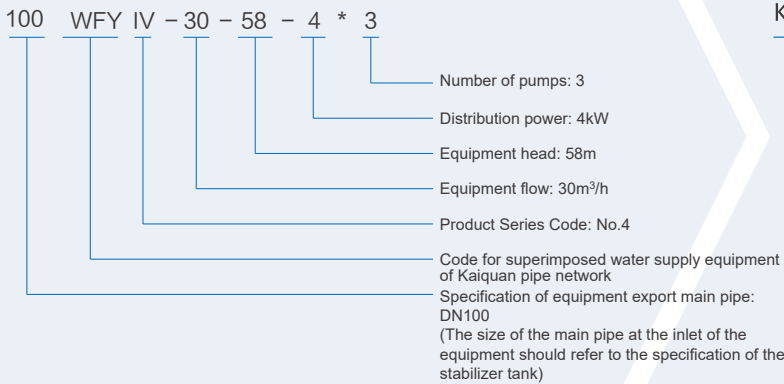
Main functions	Content
Double PLC control	Main and standby redundant dual PLC control system, to prevent lightning, surge and other accidents caused by water failure;
High performance digital PID	Constant pressure accuracy ≤ 0.01Mpa, stable time ≤ 5S, good water supply comfort;
Terminal constant pressure	It is more energy-saving and more comfortable than the usual frequency conversion water supply equipment by adopting the variable flow and pressure control mode;
Manual constant pressure	Even if all double PLC faults, manual start can still achieve constant pressure water supply;
Digital network	Pressure, frequency, power and other data are collected by digital bus, and the data is stable and reliable;
Remote monitoring	Wireless network monitoring, fault warning, expert diagnosis, SMS surge knowledge;
Color Chinese human machine interface	7 "color touch screen, clear process control, friendly man-machine interface and easy operation;
Temperature and humidity control	Temperature and humidity detection, automatic control of heating, ventilation dehumidification;
Power and signal isolation	It can suppress the transient over current and effectively suppress the interference of high-order harmonics to the intelligent terminal;
Electrical protection	With over-voltage, under voltage, over-current, overload, phase loss, short circuit, overheating and other fault alarm and automatic protection;
Automatic fault reset	It can automatically reset the recoverable fault alarm of frequency converter to ensure the continuous and stable operation of the equipment;
Automatic shielding of faulty pump	When the running pump fails, the standby pump will be put into operation automatically; The dispatching operation automatically skips the fault pump;
Low pressure protection of inlet pressure	Water shortage automatic pumping machine, to prevent excessive suction, to prevent the pump dry running; Water source recovery, automatic start;
Outlet pressure extra high pressure insured	If the pressure transmitter fails and the pipe network pressure is too high, the system can still shut down automatically and give an alarm for overpressure;
Ultra low pressure protection of outlet pressure	When the equipment is in full load operation and the operating pressure is still lower than the lower limit of the set pressure, the system will stop automatically and give a low pressure alarm;
Controllable compensation	At the peak of water consumption, the best day is to control the compensation device to regulate and compensate the stored water source to the users;
Automatic water change	Ensure the fresh and sanitary storage water source, start the compensation device regularly, and update the storage water source;
Automatic pump change	After the set time of single pump operation, automatically switch to another pump to balance the operation time of the pump;
Shut down and keep pressure	When the flow is small at night, the equipment will sleep automatically and shut down by the air pressure tank to maintain the pressure

Product Features

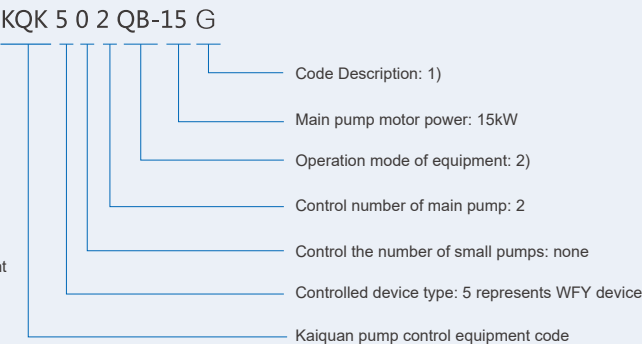
- The continuous closed water supply mode is adopted to ensure the safety of water supply;
- Food grade 304 stainless steel flow passage parts, diaphragm tanks and seals meeting drinking water hygiene standards are used to ensure water supply sanitation;
- It can make full use of the pressure potential energy of the municipal water source, and save more than 50% energy;
- The patented energy-saving technology developed by ourselves can save 20% energy compared with ordinary non negative pressure equipment; The frequency conversion redundant control system ensures the safe and reliable operation of the system;
- The lowest energy consumption solution realizes the efficient and lowest energy consumption control operation of the equipment;
- Continuous online water quality monitoring to ensure water quality safety;
- The advanced and reliable remote monitoring platform can access the operation status of pump room equipment in real time through intelligent terminal;
- Full cycle fast and efficient service system to solve customer worries;

Model Specification

Examples of models of WFYIV series complete sets of equipment are as follows:



Examples of WFY equipment matching control cabinet models are as follows:



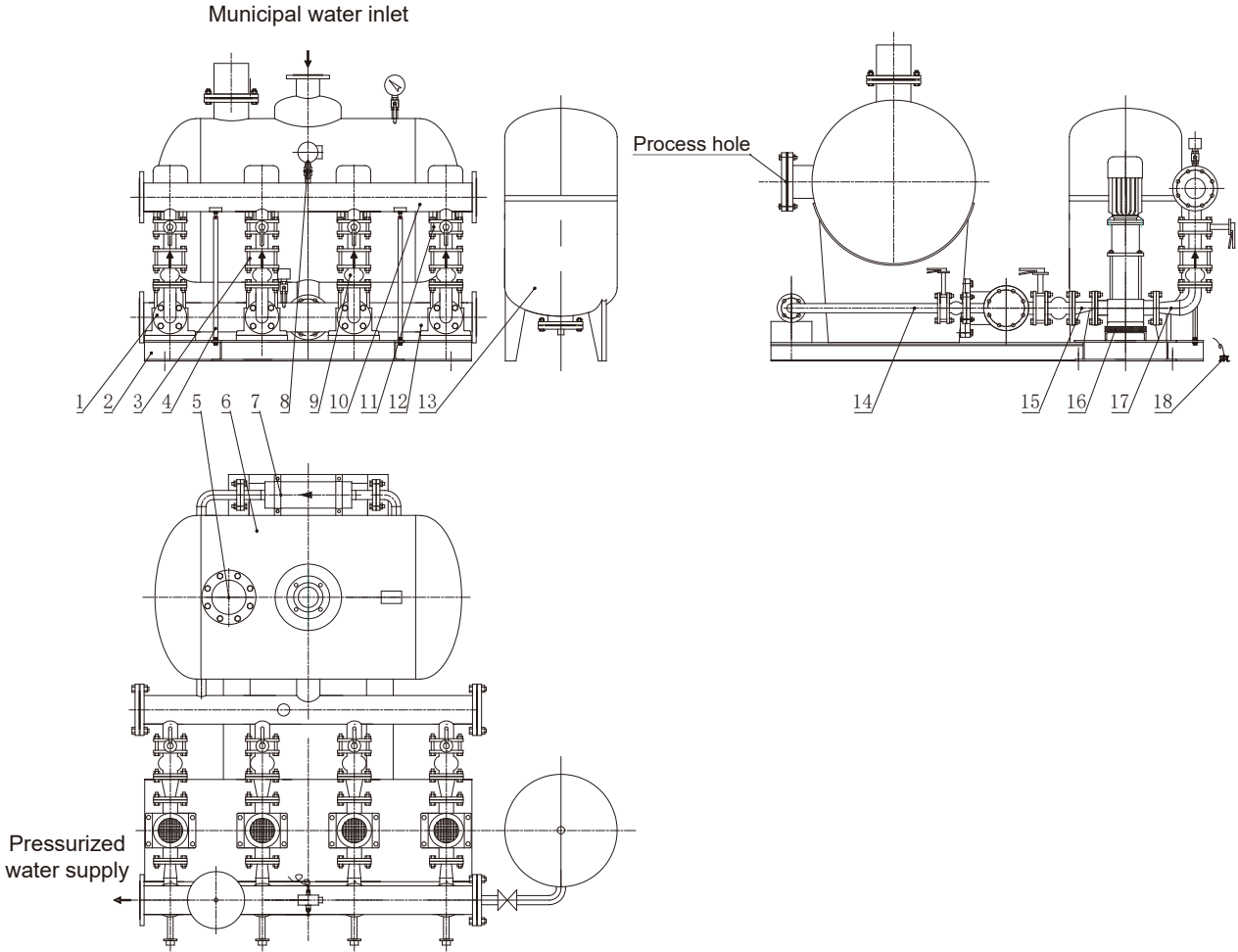
Instructions:

1) Variable frequency cabinet filing

G—refers to high-grade products. The main components of the control cabinet, such as PLC, frequency converter, pressure transmitter and low-voltage electrical appliances, adopt international famous brands.

2) Operation mode

QB—refers to full frequency conversion (each pump is equipped with 1 frequency converter). All pumps operate alternately with frequency conversion and serve as standby pumps for each other.



No.	Name	Number	No.	Name	Number
1	Vertical multi-stage centrifugal pump	2~4	10	Water supply main pipe	1
2	Channel steel chassis	1	11	Service valve	4~8
3	Check valve	2~4	12	Inlet water main pipe	1
4	Piping support	2	13	Pneumatic tank (including pipeline valve)	
5	Vacuum suppressor	1	14	Intelligent compensation pipeline	1
6	Steady flow tank	1	15	Eccentric reducer	2~4
7	Intelligent compensation	1	16	Vibration isolation cushion	2~4
8	Pressure gauge and sensor	2	17	Concentric reducer	2~4
9	Flexible joint of pump set	4~8	18	Leakage detection	1

Performance table of WFY IV non negative pressure power supply equipment														
No.	Equipment model	Vertical multi-stage centrifugal pump				Equipment parameters								
		Pump model	Number of sets	Single pump power (kW)	Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m³	Air pressure tank L/Bar	Equipment capacity (m³/h)	3	4	5	6	7
1	50WFYIV-5-58-1.5X2	KQDQ 32-5-58	2	1.5	100	50	600/0.35	100/10	Head (m)	63	61	58	55	51
2	50WFYIV-5-73-2.2X2	KQDQ 32-5-73	2	2.2	100	50	600/0.35	100/10		80	77	73	69	63
3	50WFYIV-5-88-2.2X2	KQDQ 32-5-88	2	2.2	100	50	600/0.35	100/10		96	92	88	83	77
4	50WFYIV-5-103-3X2	KQDQ 32-5-103	2	3	100	50	600/0.35	100/16		112	108	103	97	90
5	50WFYIV-5-119-3X2	KQDQ 32-5-119	2	3	100	50	600/0.35	100/16		128	124	119	112	103
6	50WFYIV-5-134-4X2	KQDQ 32-5-134	2	4	100	50	600/0.35	100/16		144	139	134	126	117

No.	Equipment model	Vertical multi-stage centrifugal pump				Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m³	Air pressure tank L/Bar	Equipment parameters				
		Pump model	Number of sets	Single pump power (kW)						Equipment capacity (m³/h)	5	7	8	9
7	50WFYIV-8-46-2.2X2	KQDQ 40-8-46	2	2.2	100	50	600/0.35	100/10	Head (m)	48	47	46	44	42
8	50WFYIV-8-69-3X2	KQDQ 40-8-69	2	3	100	50	600/0.35	100/10		71	70	69	67	64
9	50WFYIV-8-93-4X2	KQDQ 40-8-93	2	4	100	50	600/0.35	100/10		97	95	93	89	85
10	50WFYIV-8-118-5.5X2	KQDQ 40-8-118	2	5.5	100	50	600/0.35	100/16		121	120	118	113	108
11	50WFYIV-8-142-5.5X2	KQDQ 40-8-142	2	5.5	100	50	600/0.35	100/16		145	143	142	137	131

No.	Equipment model	Vertical multi-stage centrifugal pump				Equipment parameters									
		Pump model	Number of sets	Single pump power (kW)	Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank L/m ³	Air pressure tank L/Bar	Equipment capacity (m ³ /h)	6	8	10	12	14	
12	65WFYIV-10-58-1.5X3	KQDQ 32-5-58	3	1.5	100	65	600/0.35	100/10	Head (m)	63	61	58	55	51	
13	65WFYIV-10-73-2.2X3	KQDQ 32-5-73	3	2.2	100	65	600/0.35	100/10		80	77	73	69	63	
14	65WFYIV-10-88-2.2X3	KQDQ 32-5-88	3	2.2	100	65	600/0.35	100/10		96	92	88	83	77	
15	65WFYIV-10-103-3X3	KQDQ 32-5-103	3	3	100	65	600/0.35	100/16		112	108	103	97	90	
16	65WFYIV-10-119-3X3	KQDQ 32-5-119	3	3	100	65	600/0.35	100/16		128	124	119	112	103	
17	65WFYIV-10-134-4X3	KQDQ 32-5-134	3	4	100	65	600/0.35	100/16		144	139	134	126	117	

No.	Equipment model	Vertical multi-stage centrifugal pump			Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m^3	Air pressure tank L/Bar	Equipment parameters					
		Pump model	Number of sets	Single pump power (kW)					Equipment capacity (m³/h)	10	14	16	18	20
18	65WFYIV-16-46-2.2X3	KQDQ 40-8-46	3	2.2	100	65	600/0.35	100/10	Head (m)	48	47	46	44	42
19	65WFYIV-16-69-3X3	KQDQ 40-8-69	3	3	100	65	600/0.35	100/10		71	70	69	67	64
20	65WFYIV-16-93-4X3	KQDQ 40-8-93	3	4	100	65	600/0.35	100/10		97	95	93	89	85
21	65WFYIV-16-118-5.5X3	KQDQ 40-8-118	3	5.5	100	65	600/0.35	100/16		121	120	118	113	108
22	65WFYIV-16-142-5.5X3	KQDQ 40-8-142	3	5.5	100	65	600/0.35	100/16		145	143	142	137	131

No.	Equipment model	Vertical multi-stage centrifugal pump				Equipment parameters									
		Pump model	Number of sets	Single pump power (kW)	Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m ³	Air pressure tank L/Bar	Equipment capacity (m ³ /h)	12	16	20	22	24	
23	65WFYIV-20-43-2.2X3	KQDQ 40-10-43	3	2.2	100	65	600/0.35	100/10	Head (m)	45	44	43	42	41	
24	65WFYIV-20-65-3X3	KQDQ 40-10-65	3	3	100	65	600/0.35	100/10		71	68	65	62	58	
25	65WFYIV-20-87-4X3	KQDQ 40-10-87	3	4	100	65	600/0.35	100/10		96	92	87	83	79	
26	65WFYIV-20-110-5.5X3	KQDQ 40-10-110	3	5.5	100	65	600/0.35	100/16		120	115	110	105	100	
27	65WFYIV-20-133-5.5X3	KQDQ 40-10-133	3	5.5	100	65	600/0.35	100/16		144	139	133	127	120	

No.	Equipment model	Vertical multi-stage centrifugal pump				Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m^3	Air pressure tank L/Bar	Equipment parameters				
		Pump model	Number of sets	Single pump power (kW)						Equipment capacity (m³/h)	18	22	30	34
28	100WFYIV-30-43-3X3	KQDQ 50-15-43	3	3	100	100	600/0.35	100/10	Head (m)	46	45	43	41	39
29	100WFYIV-30-58-4X3	KQDQ 50-15-58	3	4	100	100	600/0.35	100/10		61	60	58	55	52
30	100WFYIV-30-72-5.5X3	KQDQ 50-15-72	3	5.5	100	100	600/0.35	100/10		76	75	72	68	65
31	100WFYIV-30-87-7.5X3	KQDQ 50-15-87	3	7.5	100	100	600/0.35	100/10		92	90	87	83	79
32	100WFYIV-30-102-7.5X3	KQDQ 50-15-102	3	7.5	100	100	600/0.35	100/16		108	106	102	98	93
33	100WFYIV-30-117-11X3	KQDQ 50-15-117	3	11	100	100	600/0.35	100/16		125	122	117	113	109
34	100WFYIV-30-133-11X3	KQDQ 50-15-133	3	11	100	100	600/0.35	100/16		141	138	133	128	122

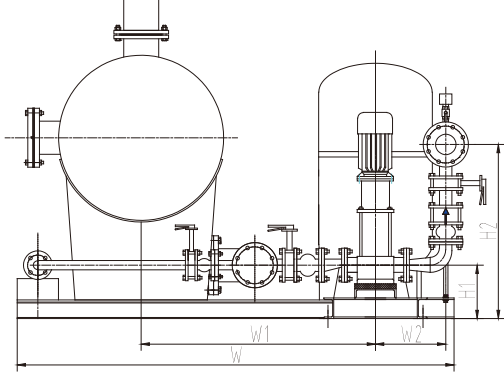
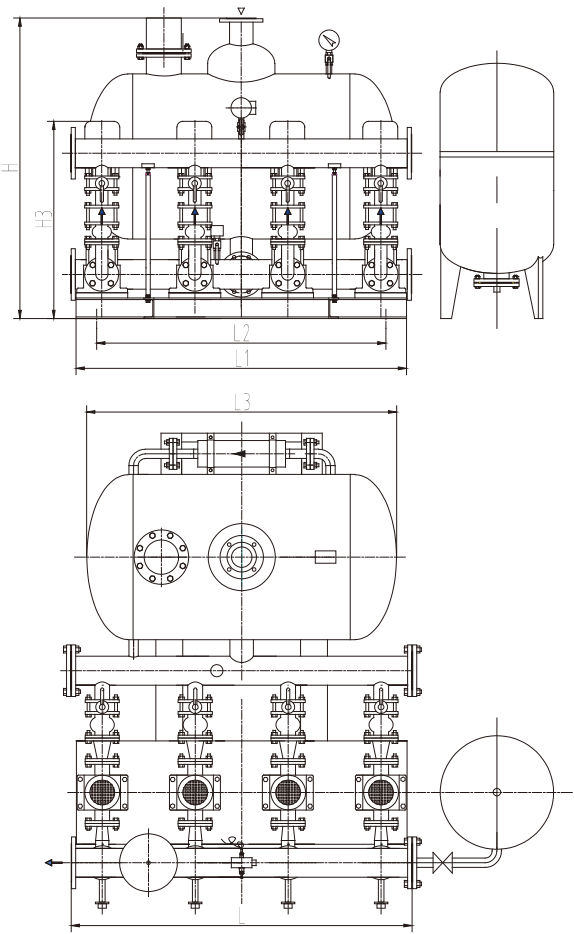
Performance table of WFY IV non negative pressure power supply equipment														
No.	Equipment model	Vertical multi-stage centrifugal pump			Equipment parameters									
		Pump model	Number of sets	Single pump power (kW)	Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m³	Air pressure tank L/Bar	Equipment capacity (m³/h)	24	30	40	44	48
35	100WFYIV-40-43-4X3	KQDQ 50-20-43	3	4	100	100	600/0.35	100/10	Head (m)	49	47	43	41	38
36	100WFYIV-40-58-5.5X3	KQDQ 50-20-58	3	5.5	100	100	600/0.35	100/10		65	63	58	55	51
37	100WFYIV-40-74-7.5X3	KQDQ 50-20-74	3	7.5	100	100	600/0.35	100/10		82	80	74	70	65
38	100WFYIV-40-90-11X3	KQDQ 50-20-90	3	11	100	100	600/0.35	100/10		99	96	90	85	80
39	100WFYIV-40-105-11X3	KQDQ 50-20-105	3	11	100	100	600/0.35	100/16		116	113	105	100	95
40	100WFYIV-40-120-11X3	KQDQ 50-20-120	3	11	100	100	600/0.35	100/16		133	129	120	115	108
41	100WFYIV-40-135-15X3	KQDQ 50-20-135	3	15	100	100	600/0.35	100/16		150	145	135	129	122

No.	Equipment model	Vertical multi-stage centrifugal pump			Equipment parameters									
		Pump model	Number of sets	Single pump power (kW)	Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m³	Air pressure tank L/Bar	Equipment capacity (m³/h)	30	39	48	54	60
42	150WFYIV-48-42-3X4	KQDQ 50-16-42	4	3	150	150	800/0.7	100/10	Head (m)	45	44	42	40	38
43	150WFYIV-48-57-4X4	KQDQ 50-16-57	4	4	150	150	800/0.7	100/10		60	59	57	54	51
44	150WFYIV-48-71-5.5X4	KQDQ 50-16-71	4	5.5	150	150	800/0.7	100/10		75	74	71	67	64
45	150WFYIV-48-86-7.5X4	KQDQ 50-16-86	4	7.5	150	150	800/0.7	100/10		91	89	86	82	78
46	150WFYIV-48-100-7.5X4	KQDQ 50-16-100	4	7.5	150	150	800/0.7	100/16		107	104	100	96	92
47	150WFYIV-48-115-11X4	KQDQ 50-16-115	4	11	150	150	800/0.7	100/16		123	120	115	111	106
48	150WFYIV-48-130-11X4	KQDQ 50-16-130	4	11	150	150	800/0.7	100/16		140	136	130	125	120

No.	Equipment model	Vertical multi-stage centrifugal pump			Equipment parameters									
		Pump model	Number of sets	Single pump power (kW)	Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m³	Air pressure tank L/Bar	Equipment capacity (m³/h)	38	52	64	72	76
49	150WFYIV-64-29-4X3	KQDQ 65-32-29	3	4	150	150	800/0.7	200/10	Head (m)	35	33	29	27	26
50	150WFYIV-64-44-7.5X3	KQDQ 65-32-44	3	7.5	150	150	800/0.7	200/10		53	49	44	41	39
51	150WFYIV-64-59-11X3	KQDQ 65-32-59	3	11	150	150	800/0.7	200/10		70	65	59	53	50
52	150WFYIV-64-74-11X3	KQDQ 65-32-74	3	11	150	150	800/0.7	200/10		89	82	74	69	65.5
53	150WFYIV-64-90-15X3	KQDQ 65-32-90	3	15	150	150	800/0.7	200/16		107	99	90	84	80
54	150WFYIV-64-106-15X3	KQDQ 65-32-106	3	15	150	150	800/0.7	200/16		124	115	106	98	93
55	150WFYIV-64-123-18.5X3	KQDQ 65-32-123	3	18.5	150	150	800/0.7	200/16		142	132	123	112	106

No.	Equipment model	Vertical multi-stage centrifugal pump			Equipment parameters									
		Pump model	Number of sets	Single pump power (kW)	Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m³	Air pressure tank L/Bar	Equipment capacity (m³/h)	54	70	90	100	108
56	150WFYIV-90-26-5.5X3	KQDQ 80-45X2/2	3	5.5	200	150	1000/1.5	200/10	Head (m)	33	30	26	22	18
57	150WFYIV-90-35-7.5X3	KQDQ 80-45X2	3	7.5	200	150	1000/1.5	200/10		42	39	35	31	27
58	150WFYIV-90-53-11X3	KQDQ 80-45X3	3	11	200	150	1000/1.5	200/10		65	60	53	47	42
59	150WFYIV-90-79-15X3	KQDQ 80-45X5/2	3	15	200	150	1000/1.5	200/10		99	90	79	68	60
60	150WFYIV-90-98-18.5X3	KQDQ 80-45X6/2	3	18.5	200	150	1000/1.5	200/16		122	111	98	85	75
61	150WFYIV-90-116-22X3	KQDQ 80-45X7/2	3	22	200	150	1000/1.5	200/16		143	131	116	101	89

No.	Equipment model	Vertical multi-stage centrifugal pump			Equipment parameters									
		Pump model	Number of sets	Single pump power (kW)	Inlet water main pipe DN	Outlet water main pipe DN	Steady flow tank Φ/m³	Air pressure tank L/Bar	Equipment capacity (m³/h)	81	105	135	150	162
62	200WFYIV-135-26-5.5X4	KQDQ 80-45X2/2	4	5.5	200	200	1000/1.5	200/10	Head (m)	33	30	26	22	18
63	200WFYIV-135-35-7.5X4	KQDQ 80-45X2	4	7.5	200	200	1000/1.5	200/10		42	39	35	31	27
64	200WFYIV-135-53-11X4	KQDQ 80-45X3	4	11	200	200	1000/1.5	200/10		65	60	53	47	42
65	200WFYIV-135-79-15X4	KQDQ 80-45X5/2	4	15	200	200	1000/1.5	200/10		99	90	79	68	60
66	200WFYIV-135-98-18.5X4	KQDQ 80-45X6/2	4	18.5	200	200	1000/1.5	200/16		122	111	98	85	75
67	200WFYIV-135-116-22X4	KQDQ 80-45X7/2	4	22	200	200	1000/1.5	200/16		143	131	116	101	89

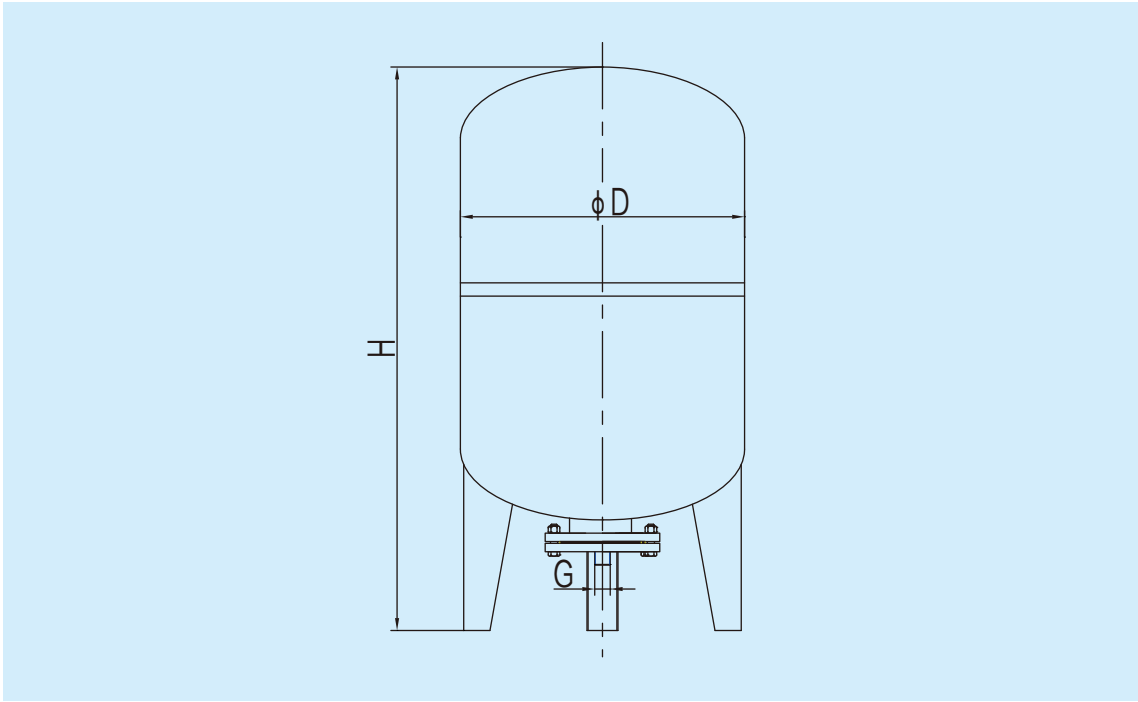


Dimension table of WFY IV non-negative pressure supply equipment															
No.	Equipment model	Vertical multi-stage centrifugal pump			Outline and installation dimensions(mm)										
		Pump model		L	L1	L2	L3	W	W1	W2	H	H1	H2	H3	H3
1	50WFYIV-5-58-1.5X2	KQDQ 32-5-58		720	670	570	1350	1830	1016	270	1420	210	845	912	912
2	50WFYIV-5-73-2.2X2	KQDQ 32-5-73		720	670	570	1350	1830	1016	270	1420	210	845	966	966
3	50WFYIV-5-88-2.2X2	KQDQ 32-5-88		720	670	570	1350	1830	1016	270	1420	210	845	1020	1020
4	50WFYIV-5-103-3X2	KQDQ 32-5-103		720	670	570	1350	1830	1016	270	1420	210	845	1109	1109
5	50WFYIV-5-119-3X2	KQDQ 32-5-119		720	670	570	1350	1830	1016	270	1420	210	845	1163	1163
6	50WFYIV-5-134-4X2	KQDQ 32-5-134		720	670	570	1350	1830	1016	270	1420	210	845	1247	1247
7	50WFYIV-8-46-2.2X2	KQDQ 40-8-46		750	700	600	1350	1920	1051	325	1420	215	885	868	868
8	50WFYIV-8-69-3X2	KQDQ 40-8-69		750	700	600	1350	1920	1051	325	1420	215	885	963	963
9	50WFYIV-8-93-4X2	KQDQ 40-8-93		750	700	600	1350	1920	1051	325	1420	215	885	1053	1053
10	50WFYIV-8-118-5.5X2	KQDQ 40-8-118		750	700	600	1350	1920	1051	325	1420	215	885	1218	1218
11	50WFYIV-8-142-5.5X2	KQDQ 40-8-142		750	700	600	1350	1920	1051	325	1420	215	885	1218	1218
12	65WFYIV-10-58-1.5X3	KQDQ 32-5-58		1170	1120	1020	1350	1850	1035	270	1420	210	855	912	912
13	65WFYIV-10-73-2.2X3	KQDQ 32-5-73		1170	1120	1020	1350	1850	1035	270	1420	210	855	966	966
14	65WFYIV-10-88-2.2X3	KQDQ 32-5-88		1170	1120	1020	1350	1850	1035	270	1420	210	855	1020	1020
15	65WFYIV-10-103-3X3	KQDQ 32-5-103		1170	1120	1020	1350	1850	1035	270	1420	210	855	1109	1109
16	65WFYIV-10-119-3X3	KQDQ 32-5-119		1170	1120	1020	1350	1850	1035	270	1420	210	855	1163	1163
17	65WFYIV-10-134-4X3	KQDQ 32-5-134		1170	1120	1020	1350	1850	1035	270	1420	210	855	1247	1247
18	65WFYIV-16-46-2.2X3	KQDQ 40-8-46		1200	1150	1050	1350	1940	1070	325	1420	215	895	868	868
19	65WFYIV-16-69-3X3	KQDQ 40-8-69		1200	1150	1050	1350	1940	1070	325	1420	215	895	963	963
20	65WFYIV-16-93-4X3	KQDQ 40-8-93		1200	1150	1050	1350	1940	1070	325	1420	215	895	1053	1053
21	65WFYIV-16-118-5.5X3	KQDQ 40-8-118		1200	1150	1050	1350	1940	1070	325	1420	215	895	1218	1218
22	65WFYIV-16-142-5.5X3	KQDQ 40-8-142		1200	1150	1050	1350	1940	1070	325	1420	215	895	1218	1218
23	65WFYIV-20-43-2.2X3	KQDQ 40-10-43		1200	1150	1050	1350	1940	1070	325	1420	215	895	868	868
24	65WFYIV-20-65-3X3	KQDQ 40-10-65		1200	1150	1050	1350	1940	1070	325	1420	215	895	963	963
25	65WFYIV-20-87-4X3	KQDQ 40-10-87		1200	1150	1050	1350	1940	1070	325	1420	215	895	1053	1053
26	65WFYIV-20-110-5.5X3	KQDQ 40-10-110		1200	1150	1050	1350	1940	1070	325	1420	215	895	1218	1218
27	65WFYIV-20-133-5.5X3	KQDQ 40-10-133		1200	1150	1050	1350	1940	1070	325	1420	215	895	1278	1278
28	100WFYIV-30-43-3X3	KQDQ 50-15-43		1200	1150	1050	1350	2020	1115	357	1420	225	960	928	928
29	100WFYIV-30-58-4X3	KQDQ 50-15-58		1200	1150	1050	1350	2020	1115	357	1420	225	960	1003	1003
30	100WFYIV-30-72-5.5X3	KQDQ 50-15-72		1200	1150	1050	1350	2020	1115	357	1420	225	960	1153	1153
31	100WFYIV-30-87-7.5X3	KQDQ 50-15-87		1200	1150	1050	1350	2020	1115	357	1420	225	960	1198	1198
32	100WFYIV-30-102-7.5X3	KQDQ 50-15-102		1200	1150	1050	1350	2020	1115	357	1420	225	960	1243	1243
33	100WFYIV-30-117-11X3	KQDQ 50-15-117		1200	1150	1050	1350	2020	1115	357	1420	225	960	1424	1424

Dimension table of WFY IV non-negative pressure supply equipment																		
No.	Equipment model	Vertical multi-stage centrifugal pump			Outline and installation dimensions(mm)													
		Pump model		L	L1	L2	L3	W	W1	W2	H	H1	H2	H3	H3			
36	100WFYIV-40-58-5.5X3	KQDQ 50-20-58		1200	1150	1050	1350	2020	1115	357	1420	225	960	1108	1108			
37	100WFYIV-40-74-7.5X3	KQDQ 50-20-74		1200	1150	1050	1350	2020	1115	357	1420	225	960	1153	1153			
38	100WFYIV-40-90-11X3	KQDQ 50-20-90		1200	1150	1050	1350	2020	1115	357	1420	225	960	1334	1334			
39	100WFYIV-40-105-11X3	KQDQ 50-20-105		1200	1150	1050	1350	2020	1115	357	1420	225	960	1379	1379			
40	100WFYIV-40-120-11X3	KQDQ 50-20-120		1200	1150	1050	1350	2020	1115	357	1420	225	960	1424	1424			
41	100WFYIV-40-135-15X3	KQDQ 50-20-135		1200	1150	1050	1350	2020	1115	357	1420	225	960	1469	1469			
42	150WFYIV-48-42-3X4	KQDQ 50-16-42		1650	1600	1500	1670	2270	1266	357	1670	250	1015	953	953			
43	150WFYIV-48-57-4X4	KQDQ 50-16-57		1650	1600	1500	1670	2270	1266	357	1670	250	1015	1028	1028			
44	150WFYIV-48-71-5.5X4	KQDQ 50-16-71		1650	1600	1500	1670	2270	1266	357	1670	250	1015	1178	1178			
45	150WFYIV-48-86-7.5X4	KQDQ 50-16-86		1650	1600	1500	1670	2270	1266	357	1670	250	1015	1223	1223			
46	150WFYIV-48-100-7.5X4	KQDQ 50-16-100		1650	1600	1500	1670	2270	1266	357	1670	250	1015	1268	1268			
47	150WFYIV-48-115-11X4	KQDQ 50-16-115		1650	1600	1500	1670	2270	1266	357	1670	250	1015	1449	1449			
48	150WFYIV-48-130-11X4	KQDQ 50-16-130		1650	1600	1500	1670	2270	1266	357	1670	250	1015	1494	1494			
49	150WFYIV-64-29-4X3	KQDQ 65-32-29		1550	1500	1400	1670	2370	1320	400	1670	240	1055	958	958			
50	150WFYIV-64-44-7.5X3	KQDQ 65-32-44		1550	1500	1400	1670	2370	1320	400	1670	240	1055	1167	1167			
51	150WFYIV-64-59-11X3	KQDQ 65-32-59		1550	1500	1400	1670	2370	1320	400	1670	240	1055	1346	1346			
52	150WFYIV-64-74-11X3	KQDQ 65-32-74		1550	1500	1400	1670	2370	1320	400	1670	240	1055	1490	1490			
53	150WFYIV-64-90-15X3	KQDQ 65-32-90		1550	1500	1400	1670	2370	1320	400	1670	240	1055	1544	1544			
54	150WFYIV-64-106-15X3	KQDQ 65-32-106		1550	1500	1400	1670	2370	1320	400	1670	240	1055	1598	1598			
55	150WFYIV-64-123-18.5X3	KQDQ 65-32-123		1550	1500	1400	1670	2370	1320	400	1670	240	1055	1652	1652			
56	150WFYIV-90-26-5.5X3	KQDQ 80-45X2/2		1680	1630	1530	2050	2700	1490	460	1970	275	1190	1183	1183			
57	150WFYIV-90-35-7.5X3	KQDQ 80-45X2		1680	1630	1530	2050	2700	1490	460	1970	275	1190	1183	1183			
58	150WFYIV-90-53-11X3	KQDQ 80-45X3		1680	1630	1530	2050	2700	1490	460	1970	275	1190	1468	1468			
59	150WFYIV-90-79-15X3	KQDQ 80-45X5/2		1680	1630	1530	2050	2700	1490	460	1970	275	1190	1628	1628			
60	150WFYIV-90-98-18.5X3	KQDQ 80-45X6/2		1680	1630	1530	2050	2700	1490	460	1970	275	1190	1763	1763			
61	150WFYIV-90-116-22X3	KQDQ 80-45X7/2		1680	1630	1530	2050	2700	1490	460	1970	275	1190	1873	1873			
62	200WFYIV-135-26-5.5X4	KQDQ 80-45X2/2		2330	2280	2180	2050	2760	1550	460	1970	275	1220	1183	1183			
63	200WFYIV-135-35-7.5X4	KQDQ 80-45X2		2330	2280	2180	2050	2760	1550	460	1970	275	1220	1183	1183			
64	200WFYIV-135-53-11X4	KQDQ 80-45X3		2330	2280	2180	2050	2760	1550	460	1970	275	1220	1468	1468			
65	200WFYIV-135-79-15X4	KQDQ 80-45X5/2		2330	2280	2180	2050	2760	1550	460	1970	275	1220	1628	1628			
66	200WFYIV-135-98-18.5X4	KQDQ 80-45X6/2		2330	2280	2180	2050	2760	1550	460	1970	275	1220	1763	1763			
67	200WFYIV-135-116-22X4	KQDQ 80-45X7/2		2330	2280	2180	2050	2760	1550	460	1970	275	1220	1873	1873			

Imported Brand (Zilmet) Diaphragm Pressure Tank

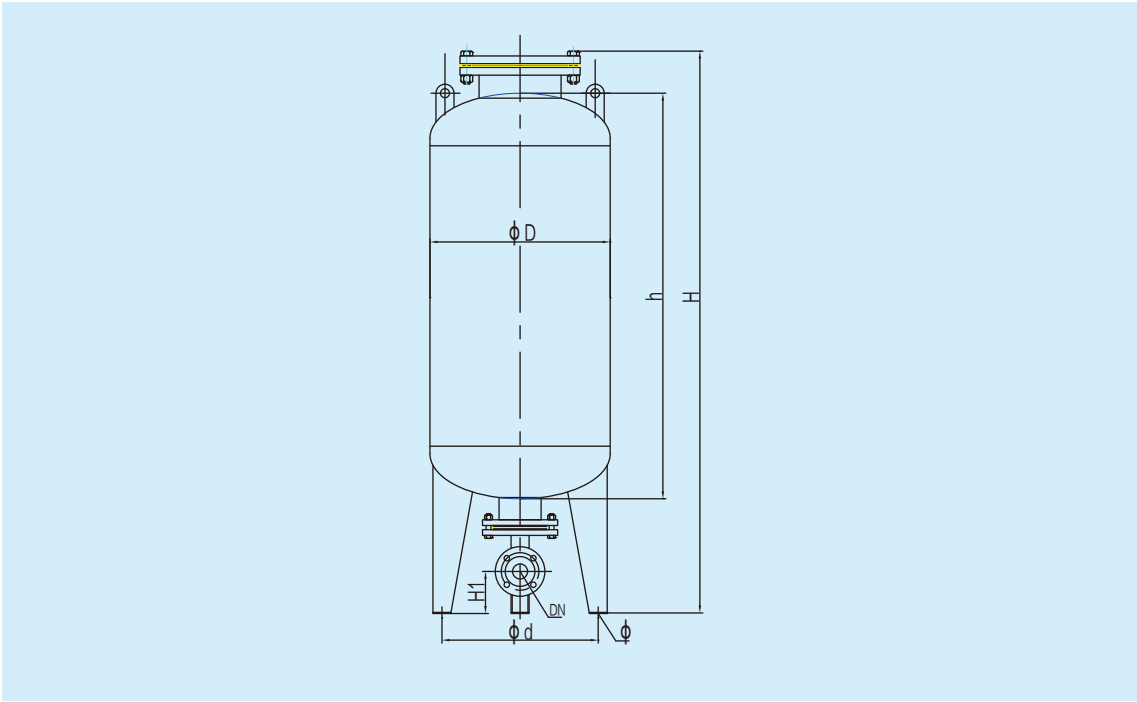
Specifications	Total volume L	Diameter D	Total height H	Maximum working pressure bar	Maximum operating temperature °C	Water outlet specification G
G380X770	50	380	770	10	99	G 1
G380X860	60	380	860	10	99	G 1
G450X830	80	450	830	10	99	G 1
G450X910	100	450	910	10	99	G 1
G450X910	100	450	910	16	99	G 1
G450X910	100	450	910	25	99	G 1
G550X1235	200	550	1235	10	99	G 1 1/2
G550X1235	200	550	1235	16	99	G 1 1/2
G630X1365	300	630	1365	10	99	G 1 1/2
G630X1365	300	630	1365	16	99	G 1 1/2
G630X1365	300	630	1365	25	99	G 1 1/2
G750X1560	500	750	1560	10	99	G 1 1/2
G750X1560	500	750	1560	16	99	G 1 1/2
G750X1560	500	750	1560	25	99	G 1 1/2
G750X2075	750	750	2075	10	99	G 1 1/2
G750X2075	750	750	2075	16	99	G 1 1/2
G850X2100	1000	850	2100	10	99	G 1 1/2
G850X2100	1000	850	2100	16	99	G 1 1/2



Domestic Brand Diaphragm Pressure Tank

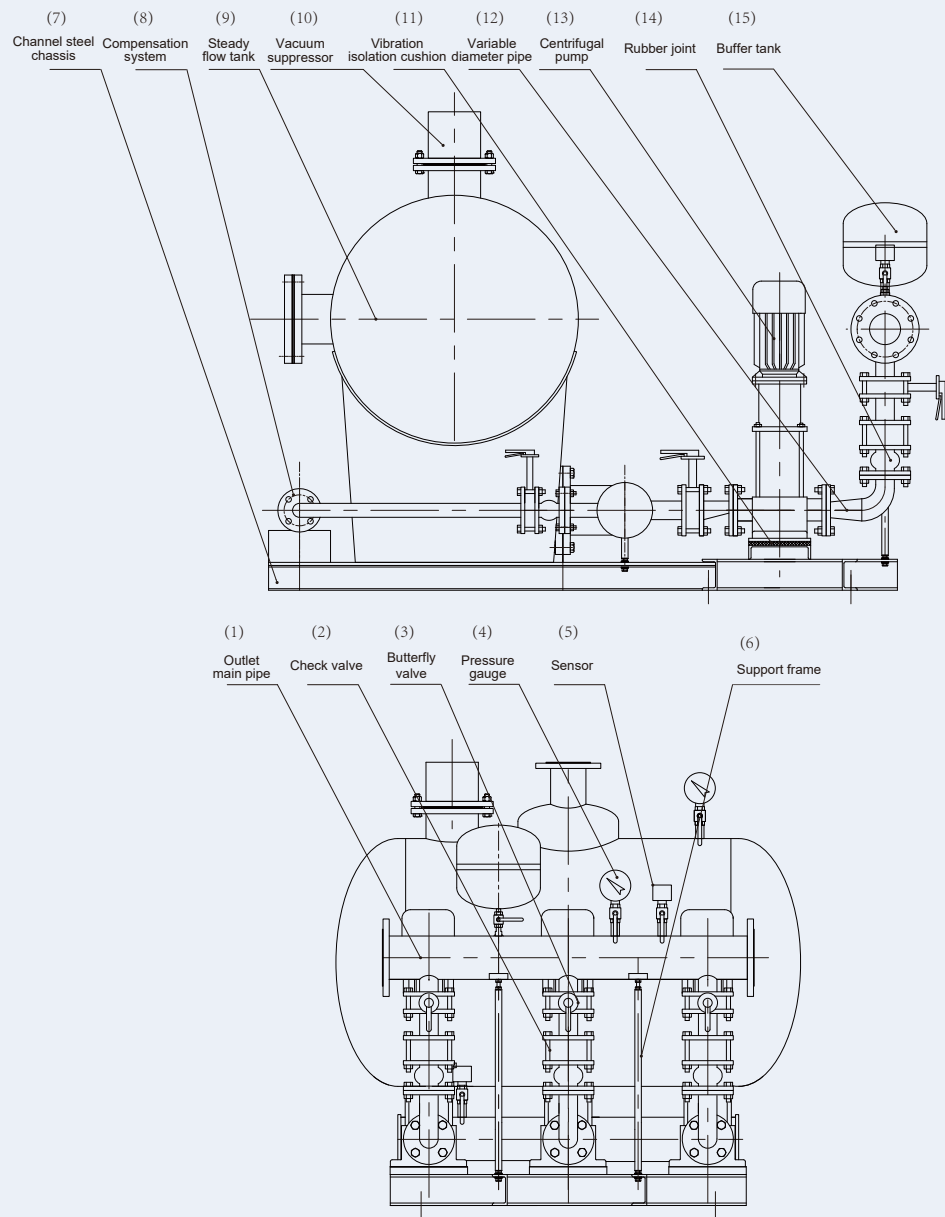
Model	Total volume L	Diameter D	Total height h	Water outlet diameter DN	Water outlet height H1	Diameter of foundation bolt center circled d	Diameter of foundation bolt hole Φ
SQL600	330	600	1760	50	140	500	3- Φ 18
SQL800	800	800	2210	50	140	660	3- Φ 21
SQL1000	1300	1000	2345	80	150	830	3- Φ 24
SQL1200	2200	1200	2694	80	150	1000	3- Φ 28
SQL1400	3100	1400	2880	100	175	1160	3- Φ 28
SQL1600	4800	1600	3320	100	175	1320	3- Φ 28
SQL1800	6200	1800	3374	100	175	1500	3- Φ 30
SQL2000	7900	2000	3534	100	175	1650	3- Φ 30

Notice: The pressure grade is divided into PN0.6MPa, PN1.0MPa, PN1.6MPa, PN2.0MPa, PN2.5MPa



Product Ordering Matters Needing Attention

Scope of Equipment Supply



WFY Water Supply Equipment Structural Diagram © Shanghai Kaiquan 2015

Description:

- WFY-standard equipment supplies include a small buffer pressure tank, which cannot be used for downtime pressure retention;If it is necessary to stop the machine and keep the pressure, it should be equipped with a larger volume of pressure stabilizing tank.
- Standard equipment supply includes pump set import and export pipelines, valves, pressure detection components and filtration devices;If you have other needs, you can buy separately.

Technical Performance and Function

The products with clear installation dimensions listed in this sample are called standard products. WFY series of standard products meet the basic technical specifications table

Table of basic technical specifications for standard products		
Model and specification		All series
Water supply flow		5-200m ³ /h. It depends on the equipment model
Water supply pressure		20-160mH ₂ O, depending on the equipment model
Actual supercharging range of water pump		40% - 100% pump head (full frequency control)
		75% - 100% pump head (single frequency control)
		Notice: part of the variable frequency control is not suitable for large-scale variable condition operation of water pump
Constant pressure accuracy		≤1mH ₂ O
Stabilization time		Up to 7S (full frequency conversion control); ≤ 15s (single frequency control)
Starting mode		300I-2800I is determined by specific model and specification
Operation mode		Automatic operation
Starting mode		Soft start of variable frequency pump
		Direct start of power frequency pump (≤ 15kw) or Y - △ start (≥ 18.5kw)
Control mode		Water outlet constant pressure control or automatic variable pressure control (analog terminal constant pressure control) can be set
Running mode		BX or QB operation mode is decided by the model of matched control cabinet
Interface		Digital instrument, 7 "true color touch screen
Protection / alarm		Short circuit, overload, open phase protection, indicator light alarm. Inverter has more perfect self-protection
Failure countermeasures		They are standby pumps for each other; Automatic degraded operation
Equipment material		The overflow part (pump, valve, tank and pipeline) is made of food grade 304 stainless steel, copper and rubber membrane materials
Protection class		Motor IP54, control cabinet IP42
Working conditions	Installation conditions	Concrete frame with enough bearing capacity
	Power Supply	380V (+ 10%, - 15%), 50 Hz, with good grounding wire and grounding resistance less than 4 ohm
	Environment	Indoor installation 0 °C - 40 °C, no corrosive, flammable and explosive gas
	Altitude, vibration	The altitude is below 1000m and below 5.9m/s (0.6g)

Matters Needing Attention

- The material of all flow passage parts (pump, valve, flow stabilizing tank and pipeline) of WFY standard products is 304 stainless steel, the surface is shot blasted with high-grade matte treatment, the material of pressure stabilizing tank is Q235B or 16MnR, and the material of outdoor protection box is galvanized sheet and plastic spraying treatment by default.
- For the selected products, the contract shall specify the supply scope and material requirements of the complete set of equipment separately, and the specific specifications of each part of the equipment to be purchased. If not specified, it shall be deemed that the products are manufactured according to the sample standard products.
- Pipeline safety and pump head problems:

In the design of WFY booster unit, it has been considered that it can stack 0.3MPa municipal pipe network pressure and withstand static pressure test of 1.5 times of rated working pressure; In the application, the system pipeline and water appliance should also be able to withstand the corresponding static pressure test without damage. The pressure level of the steady flow tank is designed as 1.0MPa. The pump head can be calculated by subtracting the minimum allowable suction pressure of municipal pipe network from the required pump head. If the pressure of municipal pipe network exceeds the above range, please make a statement in advance and give special design.

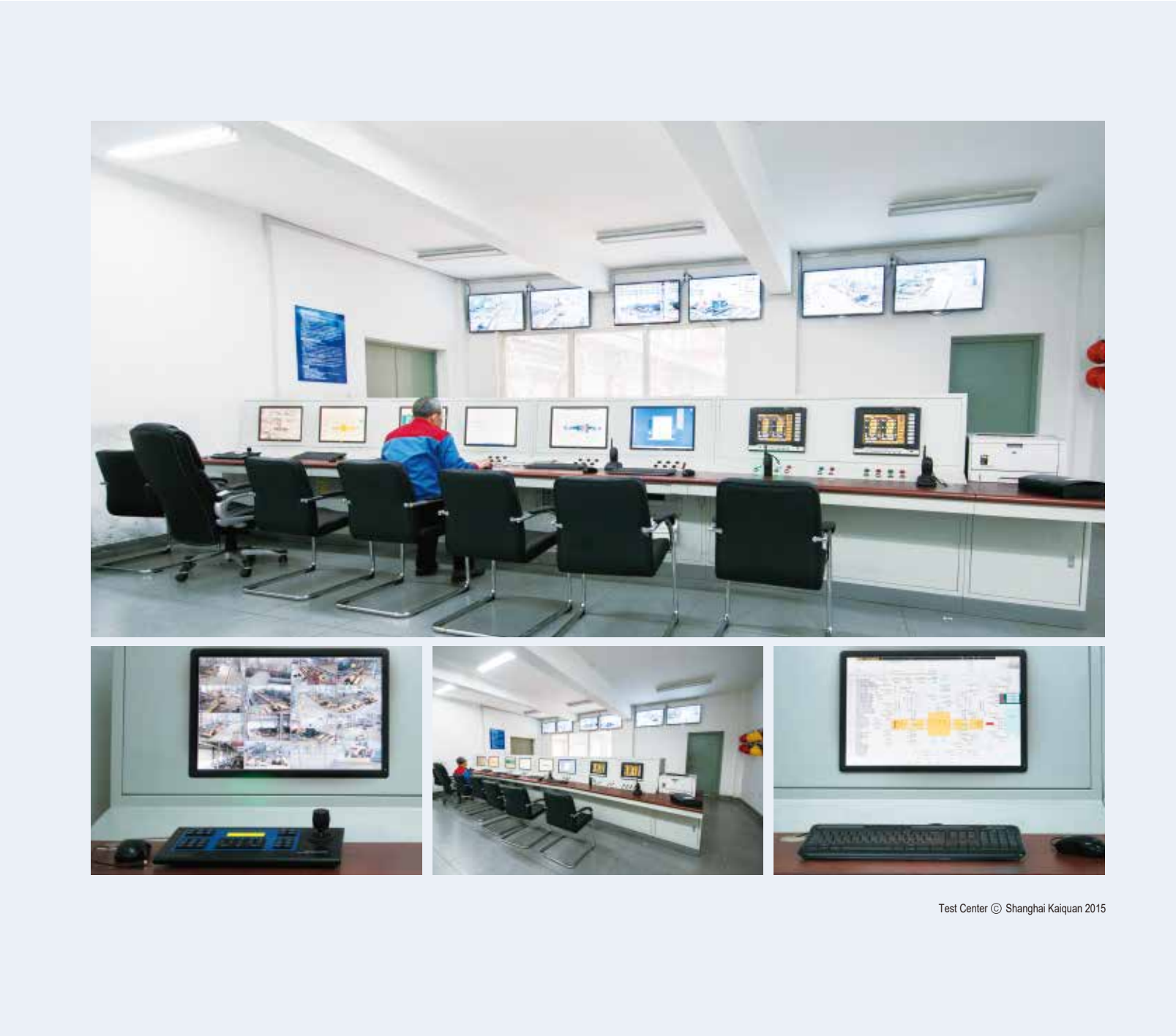
When the pump head is high, in order to prevent overpressure pipe burst, safety valve or automatic pressure relief valve should be installed in the pump room, and a pressure relief ice pipe should be installed to the collecting well.

Qualification Patent Certificate

Ministry of construction promotion certificate, quality inspection report, health report, association wide certificate, energy saving certificate

Patent List

- Energy saving air pressure automatic water supply equipment
ZL 97 2 43137.3
 - Relay booster automatic water supply equipment
ZL 2005 2 0040816.3
 - Relay booster automatic water supply equipment
ZL 2005 2 0040672.1
 - Relay booster automatic water supply equipment
ZL 2005 1 0030230.3
 - Improved pipe network pressure superposed water supply device
ZL 2006 2 0044442.1
 - A kind of pipe network superposed water supply equipment
ZL 2006 2 0046720.2
 - The utility model relates to a pipe network superposed water supply equipment which is made of a water tank as a whole
ZL 2006 2 0046721.7
- A partial pipe network superposed water supply equipment combined with water tank
ZL 2007 2 0066984.9
 - Miniaturized pipe network superposed water supply equipment
ZL 2007 2 0066985.3
 - A full pressure water supply equipment combined with water tank
ZL 2007 2 0066986.8
 - An intelligent water supply equipment
ZL 2008 2 0056010.7
 - Equipped with compensating pump and superimposed water supply equipment of pipe network using water storage capacity of steady flow tank
ZL 2008 2 0154706.3
 - Equipped with compensation pump pipe network superimposed pressure water supply equipment
ZL 2008 2 0154707.8
 - Pipe network pressure superposed water supply equipment with regulating pipe and compensation pump
ZL 2009 2 0208750.2
- Low energy pipe network pressure feed water equipment
ZL 2009 2 0208748.5
 - Intelligent dual mode water supply equipment
ZL 2009 2 0208749.X
 - Fire pump of nuclear power plant
ZL 2009 2 0208754.0
 - A kind of gas top pressure fire water supply equipment
ZL 2009 2 0286239.4
 - Energy saving water supply equipment for high rise buildings
ZL 2010 2 0545602.2
 - Constant pressure water supply equipment
ZL 2010 2 0607806.4



Test Center © Shanghai Kaiquan 2015

Component Diagram of WFY IV Non-Negative Pressure Water Supply Equipment

Remote Monitoring Platform



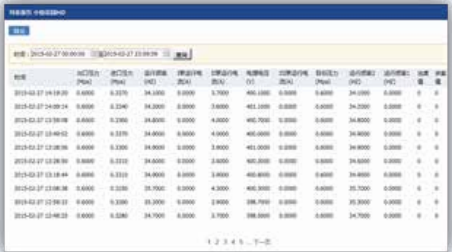
01. High performance Danfoss pressure transmitter
02. Industrial Siemens PLC
03/06. Food grade valve assembly 04/07. Siemens Circuit Breaker
05. High performance fc111 frequency converter
08. WFY IV pump unit equipment
09. International famous brand of thermal relay (Siemens)
10. Chinese color man machine interface
11. WFY IV intelligent control cabinet



Based on Web access, user rights login



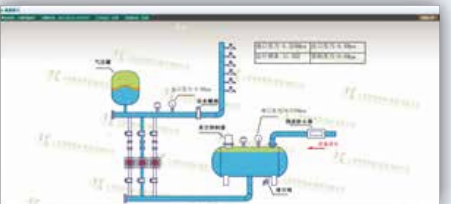
Alarm parameter setting



Data analysis - list report



Pump station management - information setting



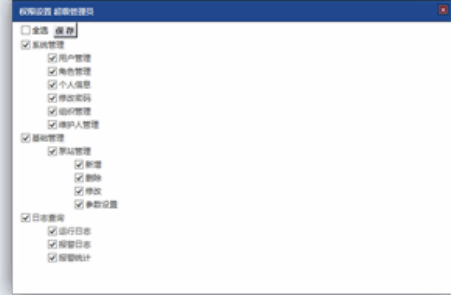
Pump room status, process dynamic monitoring



Alarm fault record and query



Data analysis - curve report



User management - permission settings

Manufacturing Capacity

10000 square meters heavy duty workshop
1200 sets of advanced production and inspection equipment

Kaiquan is now equipped with 1200 sets of advanced production and inspection equipment
Among them, 56 sets of imported equipment, 24 sets of large-scale processing equipment, more than 300 sets of numerical control processing equipment, heavy-duty workshop, construction area of 10000 square meters, investment of 150 million yuan
These advanced equipment will comprehensively enhance the processing and manufacturing capacity of Kaiquan and achieve international manufacturing quality



Online Service Center



Operation and Maintenance Support System

- Professional service team
- Be able to deal with all kinds of mechanical and electrical faults in time
- Guarantee of 20 years of service engineering experience
- Provide emergency service accessories
- Each service point has a spare parts warehouse to respond to the scene in time
- Regular inspection
- In holidays and other important seasons, we can still guarantee regular inspection of equipment
- Reduce customer human support, reduce customer maintenance costs

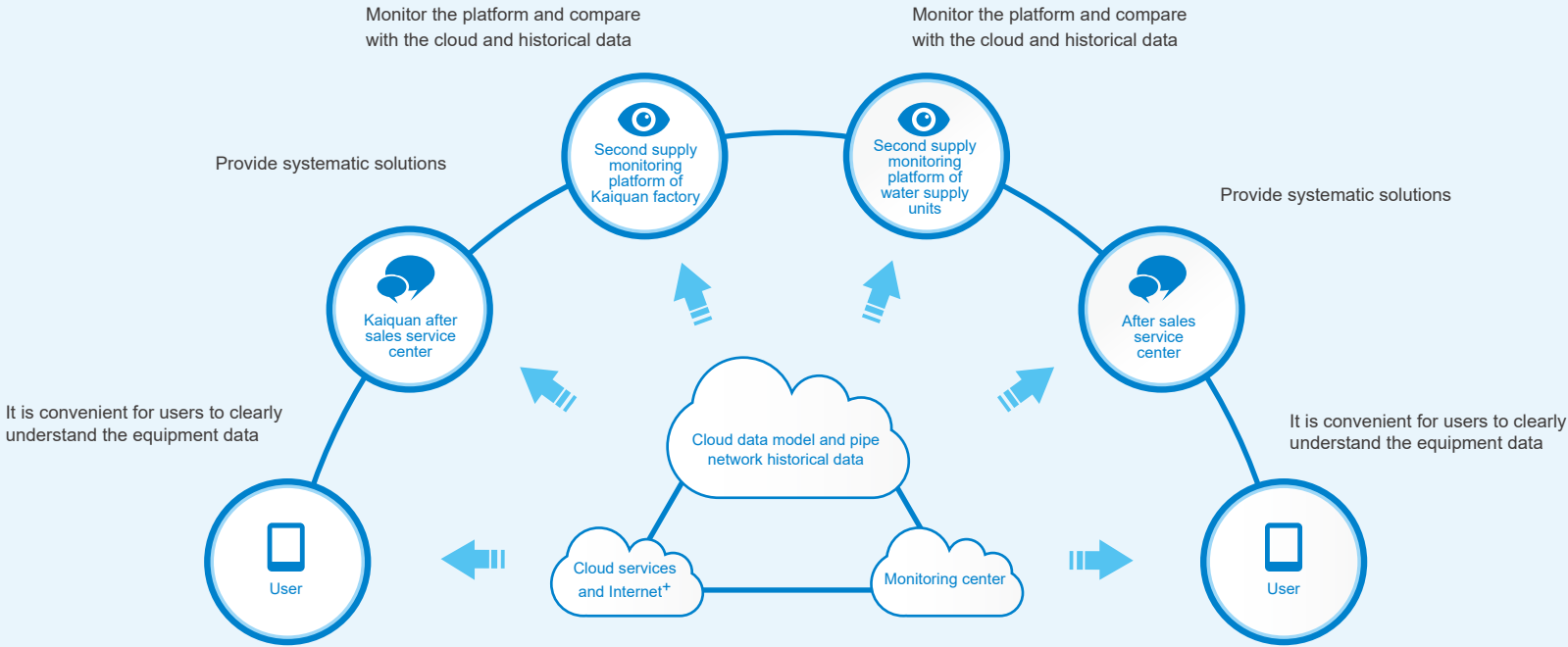
Cloud + Water Supply Cloud services and Internet + Mutual fusion

The integration of the cloud service of Kaiquan equipment and Internet + can make users more convenient and clear their equipment data.

Through Kaiquan's control center, user data will be fed back to the secondary monitoring platform and compared with the cloud data model and pipe network history, then sent to the after-sales service center, and the final results will be fed back to the monitoring platform. In the later use, the product

encounters a failure at any time, and each link has a problem, which can be controlled on the remote monitoring platform. And quickly feedback to the headquarters to provide systematic solutions.

At the same time, Kaiquan's equipment can also formulate targeted overall service solutions according to customers' individual requirements to help customers solve various problems in the process of product use.



Main Customers

