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国家产品质量免检 | 中国著名品牌

WWG系列无负压变频给水

WWG Series Non-Negative VFD Booster

Product Catalog 2020

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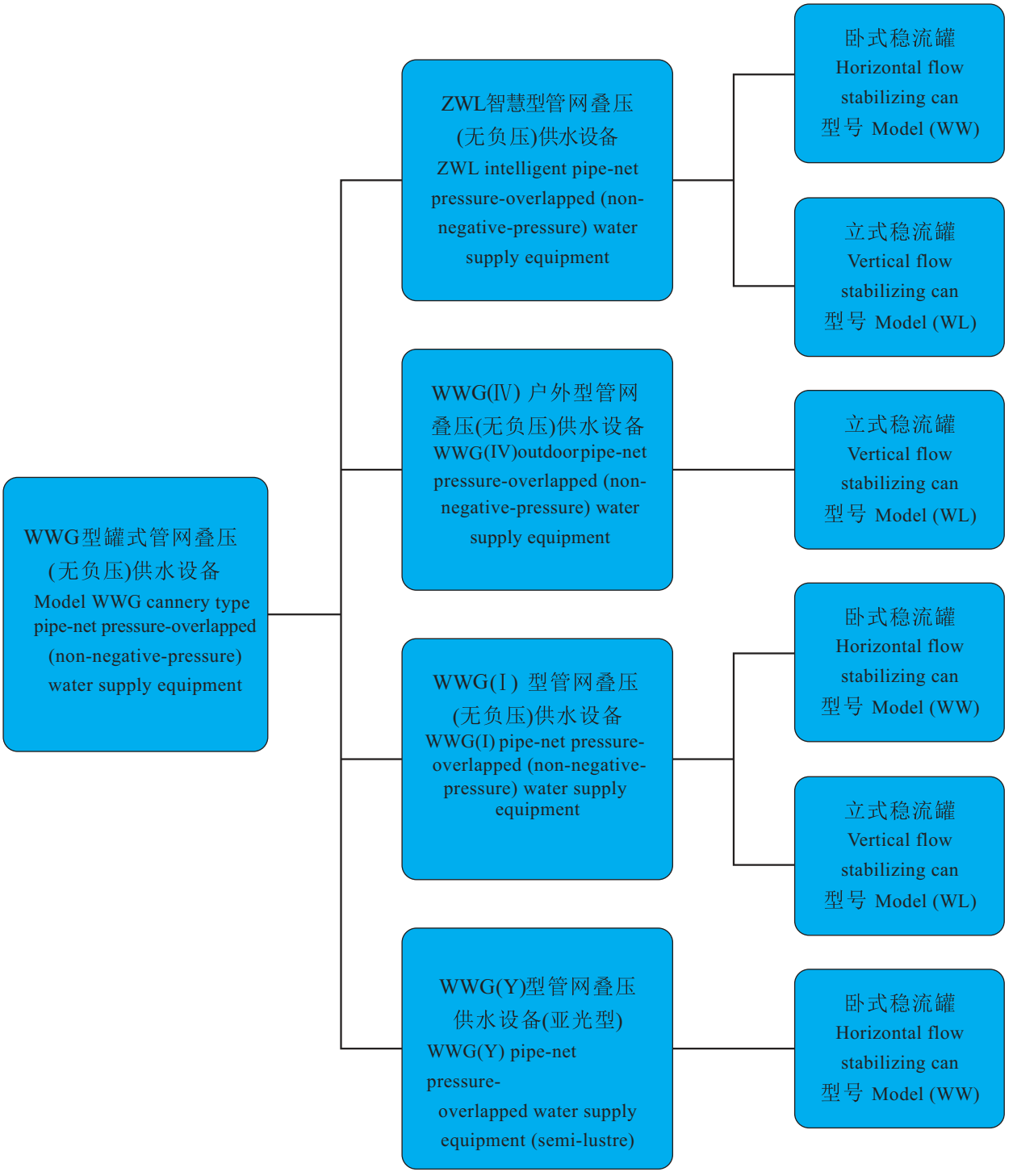

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

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供水设备种类 Varieties of water supply equipment	设备配置特征 Allocation characteristics	供水特点 Features of water supply	结　论 Conclusion
WWG型罐式管网叠压 无负压 供水设备 Model WWG cannery type pipe-net pressure-overlapped (non-negative-pressure) water supply equipment	稳流罐、泵组、管路阀门、控制仪表、监控模块、稳压罐(客户选)等 Flow stabilizing can, pump unit, pipeline valve, control meter, monitor module, pressure stabilizing can (selected by clients) etc.	管网叠压供水，有效的利用市政管网压力，差多少，补多少 Pipe-net pressure-overlapped water supply, effectively utilize the municipal works pipe-net's pressure, compensate as much as the balance.	节能，比其他供水设备节电20%~40% Energy-saving, more than that of other water supply equipments by 20 ~ 40%.
		结构紧凑、无需修建水池和大型水箱 Compact structure, no need to build up a water pool and a large water tank	节资、占地面积小，与传统供水相比，节省50%以上的基建费 Save the investment, small land area. Compared with the traditional water supply, save the construction cost by over 50%.
		水源直接来自市政管网并始终处于直接抽取状态，无滞留，不会造成水质污染 The water source directly comes from the municipal works pipe-net and always in the cycled state, without held-up and causing the water quality to be polluted.	水源环保清洁 Clean and environmental protection water source
		控制系统采用先进的变频控制技术，可进行远程监控，人机界面操作，并具有过载、短路、过压、欠压、缺相等自我保护功能 The control system uses an advanced inverter control know-how and can do remote monitor and man-machine interface operation, of overload, short-circuit, over-voltage, under-voltage, lack-of-phase etc. protections.	功能全、智能化程度高 Full functions, high degree of intelligence
		产品配件均采用国内外知名品牌 All the allocations are of the domestic and foreign famous brands.	产品先进、质量可靠 Advanced product, reliable quality.
传统式供水设备 Traditional water supply equipment	水池或水箱、泵组、管路阀门、控制仪表等 Water pool or water tank, pump unit, pipeline valve, control meter etc.	通过水箱或水池中转加压供水，水池或水箱的水源，易污染，并且清洗困难，占地面积大 Supply water by way of trans-pressuring in the water tank or pool, the water therein is easy to be polluted and difficult to be cleaned, need a large land area.	无法利用市政管网的压力、清洗维护成本高 No way to utilize the municipal works pipe-net's pressure, high cost at cleaning and maintenance.

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

3、WWG 型罐式管网叠压(无负压)供水设备的结构特点及其适用区域

⑴WWG智慧型管网叠压(无负压)供水设备

★结构特点：设备结构简单，控制系统安全、稳定，安装、维护方便。

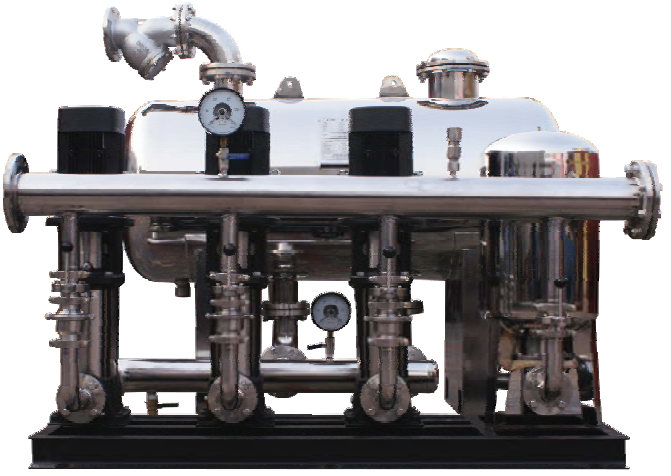
★适用区域：在市政管网水源充足、相对稳定或波动不大的地区

3. Structure features and appliable areas of model WWG cannery type pipe-net pressure-overlapped (non-negative-pressure) brand-new water supply equipment

(1)WWG intelligent pipe-net pressure-overlapped (non-negative-pressure) brand-new water supply equipment

★ Features of structure: simple structure, safe and stable control system, easy installation and maintenance.

★ Applicable area: where there is a sufficient and stable water source from the municipal works pipe-net or a small fluctuation.



⑵WWG(I)型管网叠压(无负压)供水设备

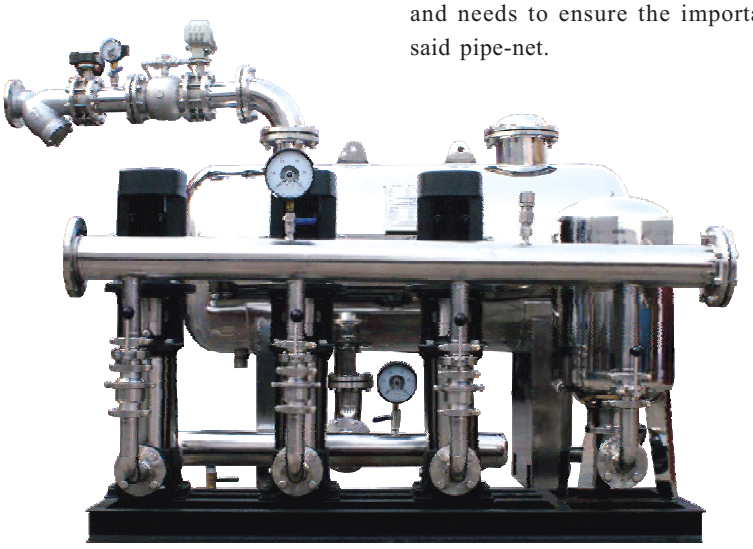
★结构特点：具有防负压模块，防倒流装置，控制系统较先进，能够实时检测市政管网压力的变化，并具有智能调节控制模块，安全性能更高。

★适用区域：在市政管网在高峰时，有波动，并需要保证市政管网重要供水区域的供水地区

(2)WWG(I) pipe-net pressure-overlapped(non-negative-pressure) brand-new water supply equipment

★ Features of structure, of a negative-pressure preventing module, a back-flow preventer and an advanced control system, capable of doing real-time detection of any variations with the municipal works pipe-net pressure and intelligent adjustment of the control module, higher safety.

★ Applicable areas: the area where there is a heavier fluctuation with the municipal works pipe-net at the peak time and needs to ensure the important water supply areas of the said pipe-net.



WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

⑶WWG(IV)户外型管网叠压(无负压)供水设备

★结构特点:整套设备包括稳流罐、泵组、控制系统、稳压罐等于一体，并带有外壳，具有防雨、防尘、防破坏的优点，且通风、散热性好，摆放自由，不受地域环境的限制。适用于有遮阴、0~40℃内户外环境。但对于由腐蚀性强、长时间高温和太阳直射、霜冻、潮湿的户外环境，需要特殊要求，进行另行设计。

★适用区域：在泵房占地紧张，或受地域和环境的限制地区

(3)WWG(IV) outdoor pipe-net pressure-overlapped (non-negative-pressure)water supply equipment

★Features of structure: The overall equipment includes flow stabilizing can, pump unit, control system and pressure stabilizing can as well as a casing and features rainproof, dustproof and destruction prevention, good ventilation and radiation properties, free placement and non-limit on either area or environment. Applicable for 0~40℃ indoor and outdoor surroundings with sunshade. But for the frost, wetted outdoor surrounding of a strong corrosiveness, a long time high temperature and direct sunshine, a separate design with special requirements needs to be done.

★Applicable area: where the pump house land is less or limited by the region or environment

⑷WWG(Y型管网叠压(无负压)供水设备

★设备特点： ⅰ、设备全部不锈钢管件采用亚光处理新工艺，主要作用使其整套设备表面防腐性提高了4~5倍，并且也使整套设备外观更加美观、紧凑。

ⅱ、设备中所有的焊接件均采用自动氩弧焊接技术；提高了焊接质量；而且焊缝美观。

★适用区域：在市政管网水源充足、相对稳定或波动不大的地区，并且设备还可以在腐蚀性很强环境中工作，比如：气候比较潮湿的沿海城市等。

(4)Model WWG(Y)pipe-net overlapped pressure (non-negative pressure) water supply equipment

★Features ⅰ. All-stainless steel fittings, used with a new technology of semi-lustre finishing to have the anti-corrosiveness of the surface of the complete equipment enhanced by 4~5 times and the outlook nicer and more compact.

ⅱ. The technique of automatic argon-arc welding is used for all the welded parts, enhancing the welding quality and making the welded seam nice.

Applicable area: the areas with the water source sufficient, relatively stable or less fluctuated from the municipal pipe-net and, in addition, the equipment can work in a strong corrosive environment, such as: the coastal cities of a wetter weather.

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

4、WWG罐式管网叠压(无负压)供水设备与市场同类设备的对比：

4.Comparison between model WWG cannery type pipe-net pressure-overlapped (non-negative-pressure) water supply equipment and the same ones in the markets:

	汉森集团管网叠压(无负压)设备 Pipe-net pressure-overlapped (non-negative-pressure) equipment of HanThing Group	市场同类设备 The same ones in the markets
控制系统 Control system	控制先进、控制模式多样化，使用范围广，适合不同用户的需求，具有人机对话功能 Advanced control, multiple control modes, wide range of application, suitable for different users, of man-machine dialogue function.	控制模式比较单一、人机对话功能较弱，使用范围较小 Simple control mode, weak function of man-machine dialogue, smaller range of application.
设备制造工艺 Manufacturing workmanship	管件均采用自动焊接，外观美观及质量高、制造工艺好 The pipe fittings are automatically welded, a nice outlook, a high quality and a good manufacturing workmanship.	大多数采用手工焊，质量没有保证，在制造工艺上，有些厂家不切实际的宣传，诸如：储能装置，能量交换器，其实稳压罐就能实现上述功能 Mostly man-made welded, no quality guarantee. There are some impractical propaganda by some manufacturers on the manufacturing workmanship, such as: energy storage apparatus, energy exchanger etc., actually the pressure stabilizing tank can just carry out the said functions.
产品种类 Category of product	产品种类多，适合不同状况地区，可使用于生活、消防、农村灌溉、农村饮用水等领域，如WWG WWG(I) WWG(IV) WWG(Y) More varieties, suitable for the areas in different states, applicable for living, fire-fighting, farmland irrigation, village drinking water, as WWG, WWG(I), WWG(IV), WWG(Y).	产品相对单一，适用的区域很小，多用于生活供水 Relatively less varieties, suitable for less areas, mostly for living water.
性价比 Performance-price ratio	较高—质量高、功能全且先进，价格比较低 High quality, complete and advanced functions, lower price.	较低—功能单一，且价格昂贵 Simple function, but expensive.

罐式管网叠压(无负压)设备型号意义

Model meaning of cannery type pipe-net pressure-overlapped (non-negative-pressure) equipment

WWG□ □ / □ - □ □ - □ □

- 水泵类型：D-DL型、S-SLS型、W-SLW型、G-GDL型、L-LG型、F-SLG型 (注：外购泵采用其全称如CR型) (后加Q表示小流量时采用气压供水)
  Type of water pump: model D-DL, model S-SLS, model W-SLW, model G-GDL, model L-LG, model F-SLG, (note: for externally purchased pumps, use the full title, as model CR) (Those plus Q behind mean the pneumatic water supply at a small flow)
- 水泵台数（台） Number of water pump
- 稳流罐种类：L-立式、W-卧式（加P为不锈钢质）
  Type of flow stabilizing can: L-vertical type, W-horizontal type (the one plus P is made of stainless steel)
- 稳流罐容积（m^3） Volume of flow stabilizing can
- 设计供水流量（L/s） Designed water supply flow
- 供水压力（1/10MPa） Water supply pressure
- 设备系列代号分I , IV, Y (注：无代号则是智慧型)
  Code of equipment series: I, IV, Y (note: the one without a code means the intelligent type)
- 罐式管网叠压(无负压)供水设备型号
  Model of cannery type pipe-net pressure-overlapped (non-negative-pressure) water supply equipment

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

设备运行环境条件及其技术参数
Environmental conditions for the equipment movement and its technical parameter

运行环境条件

环境温度：5~40℃

介质温度：4~70℃

空气相对湿度：≤85%(20±5℃时)

供电电压：380V（+5%、-10%）

技术参数

流量范围：0~5000m^3/h

压力范围：0~2.5MPa

控制功率：≤355KW

压力调整精度：≤±0.01 MPa

Environmental conditions of movement

Ambient temperature: 5~40℃

Medium temperature: 4~70℃

RH of air: ≤85%(20±5℃ when)

Power supply voltage: 380V（+5%、-10%）

Technical parameters

Range of flow: 0~5000m^3/h

Range of pressure: 0~2.5MPa

Control power: ≤355KW

Pressure adjusting precision: ≤±0.01 MPa

罐式管网叠压 无负压 设备控制系统特点
Features of cannery type pipe-net pressure-overlapped (non-negative-pressure) equipment control system

1、启动方式：采用变频软启动，避免了工频起动给管网带来的压力波动。并且各泵皆为软启动，消除了启动时的冲击电流，延长了设备的使用寿命；各泵循环启动，使各泵不会因长久不用而生锈或使用频繁而磨损。

2、操作模式：手动操作、自动操作。

3、控制方式：⑴采用PID闭环动态控制模块，检测、控制精度高。

⑵可采用出口恒压控制或自动变压控制。多模拟量输入方式，可实现管网叠压供水控制工艺的要求。

4、人机界面：⑴开关按钮操作、灯标指示或数字显示；

⑵高档控制采用中文文本显示器、或采用触摸屏，有订货合同决定；

⑶*全屏为中文显示，最大可储存256幅画面，采用按键弹出式菜单，所见即所得，操作、设定极为直观。

*触摸屏的每幅画面，可由图形、文字及相应的PLC资料组成。

*在屏的画面上可作出各种控制按钮、控制开关图形，只要触摸这些图形，即可启动相应的水泵。

*在屏的画面上可作出各种指示灯、图形或文字说明，能监视各泵的工作状态。

1. Way of start: use inverter soft start to avoid the pressure fluctuation with the pipe-net caused at the power frequency start. All the pumps are in soft start, eliminating the impact current at start and extending the equipment duration; all the pumps are in a circulated start, making them non-rusted when not used for a long time or non-wear in case of frequent use.

2. Mode of operation: manual and automatic.

3. Way of control: (1)Use the PID closed-ring dynamic control module, high detection and control precision.

(2)Can use the exit constant-pressure control or the automatic pressure variable control. The input mode of multiple simulation quantities can carry out the requirement of the pipe-net pressure-overlapped water supply control workmanship.

4. Man-machine interface: (1)Switch button operation, lamp-mark indication or digital display.

(2)High-grade control uses a Chinese text displayer or touchable screen, set when there is an order contract.

(3)* Full-screen is in Chinese display, maximum 256 pictures can be memorized. Use a key pop-up menu, resulting in what is gained from what is seen and an extremely visible operation and set-up.

* Each picture on the touchable screen can be formed with figures, letters and corresponding PLC information.

* On the picture various control buttons, control switch figures can be drawn out and, just by touching the figures, the corresponding water pumps can be started.

* On the picture various indicators, figures and word descriptions can be made, for monitoring the work state of each pump.

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

*在屏的画面上可实时地设定工作压力、流量，并能自动显示实时压力、流量等参数。

*可自动弹出故障报警和故障原因的画面。

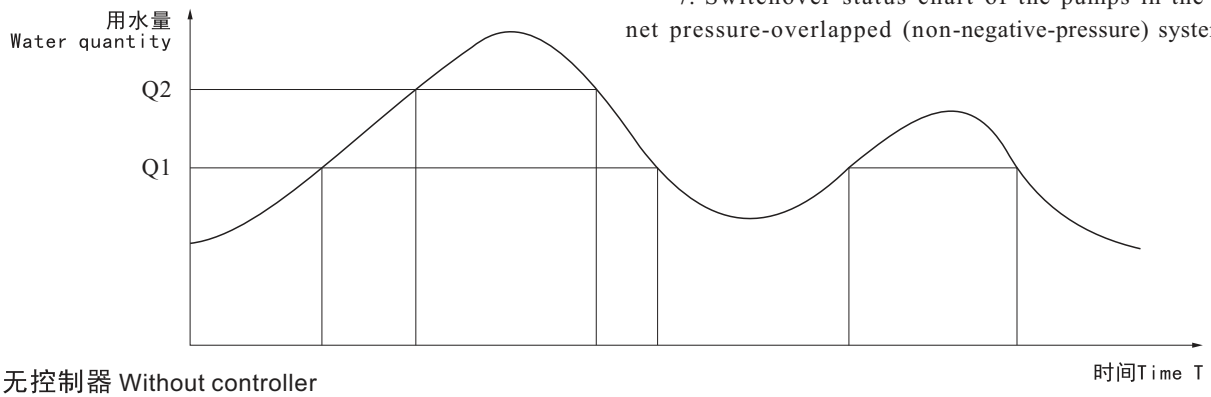
*可显示系统运行的动态画面，效果逼真

5、保护/报警设置：具有短路、过流、过压、过热、过载等多种保护，水泵运行如有故障，自动停止工作并报警输出；系统具有自检、故障判断、故障记忆、故障显示、自动启动备用泵等功能。

6、故障对策及处理：互为备用泵；自动降级运行。

7、WWG管网叠压(无负压)系统水泵切换状态图

运行情况见图 See the chart for the movement status:



1）无控制器 Without controller

1# 泵 Pump	▲	▲	▲	▲	▲	▲	▲
2# 泵 Pump		●	●	●		●	

2）有控制器 With controller

1# 泵 Pump	▲	●	●			▲	▲
2# 泵 Pump		▲	●	●			
3# 泵 Pump			▲	▲	▲	●	

▲—变频运行 Inverter movement ●—工频运行 Power frequency movement

* On the picture real-time setting of the working pressure and flow can be done and the real-time pressure, flow etc. parameters can be automatically shown.

* The picture of failure alarm and failure cause can be automatically pop-up.

* The dynamic pictures of the system movement can be shown, a verisimilar effect.

5. Protection/alarm set-up: available with short-circuit, overflow, over-voltage, overheat, overload etc. multiple protections. In case of a failure with the pump, automatic stop and alarm output happens; the system has self-check, failure judgment, failure memorization, failure display, automatic start of spare pump etc. functions.

6. Failure game and treatment: interchangeable to be a spare pump; automatically stage-lowering movement.

7. Switchover status chart of the pumps in the pipe-net pressure-overlapped (non-negative-pressure) system

罐式管网叠压 无负压 控制柜型号意义

Model meaning of model ZWL cannery type pipe-net pressure-overlapped (non-negative-pressure) control cabinet

TPK - WWG(Ⅰ) - □ / □ + □

- 附属小泵功率(若无则省去) Power of attached small pump
- 控制水泵的台数 Number of control pump
- 控制水泵的功率(kW) Power of control pump
- 罐式管网叠压(无负压)变频给水设备的特征 Characteristics of cannery type pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment
- 罐式管网叠压(无负压)变频给水设备控制柜特征 Characteristics of cannery type pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment control cabinet

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

※罐式管网叠压(无负压)变频给水设备控制柜特征：

▲TPK--普通型管网叠压(无负压)变频给水设备控制柜

▲TPKII--人机界面（触摸屏）控制管网叠压(无负压)变频给水设备控制柜

▲TPKIII--文本显示器控制管网叠压(无负压)变频给水设备控制柜

▲TPKIV--手机短信GPRS控制管网叠压(无负压)变频给水设备控制柜

▲TPKV--计算机控制管网叠压(无负压)变频给水设备控制柜

▲TPKVI--计算机远程网络控制管网叠压(无负压)变频给水设备控制柜

※罐式管网叠压(无负压)变频给水设备的特征为：

▲WWG：智慧型管网叠压(无负压)稳流给水设备

▲WWG(Ⅰ)：型管网叠压(无负压)供水设备

▲WWG(Ⅳ)：户外型一体式管网叠压(无负压)供水设备

※Characteristics of the control cabinet with cannery type pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment

▲TPK--Control cabinet with common type pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment

▲TPKII--Control cabinet with man-machine interface (touchable screen) controlled pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment

▲TPKIII--Control cabinet with text displayer controlled pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment

▲TPKIV--Control cabinet with mobile-phone message GPRS controlled pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment

▲TPKV--Control cabinet with computer controlled pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment

▲TPKVI--Control cabinet with computer remote network controlled pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment

▲Characteristics of cannery type pipe-net pressure-overlapped (non-negative-pressure) inverter water supply equipment:

▲WWG : Intelligent pipe-net pressure-overlapped(non-negative-pressure) flow-stabilized water supply equipment

▲ WWG(Ⅰ): Pipe-net pressure-overlapped (non-negative-pressure) water supply equipment

※ WWG(Ⅳ): Integrated pipe-net pressure-overlapped (non-negative-pressure) water supply equipment

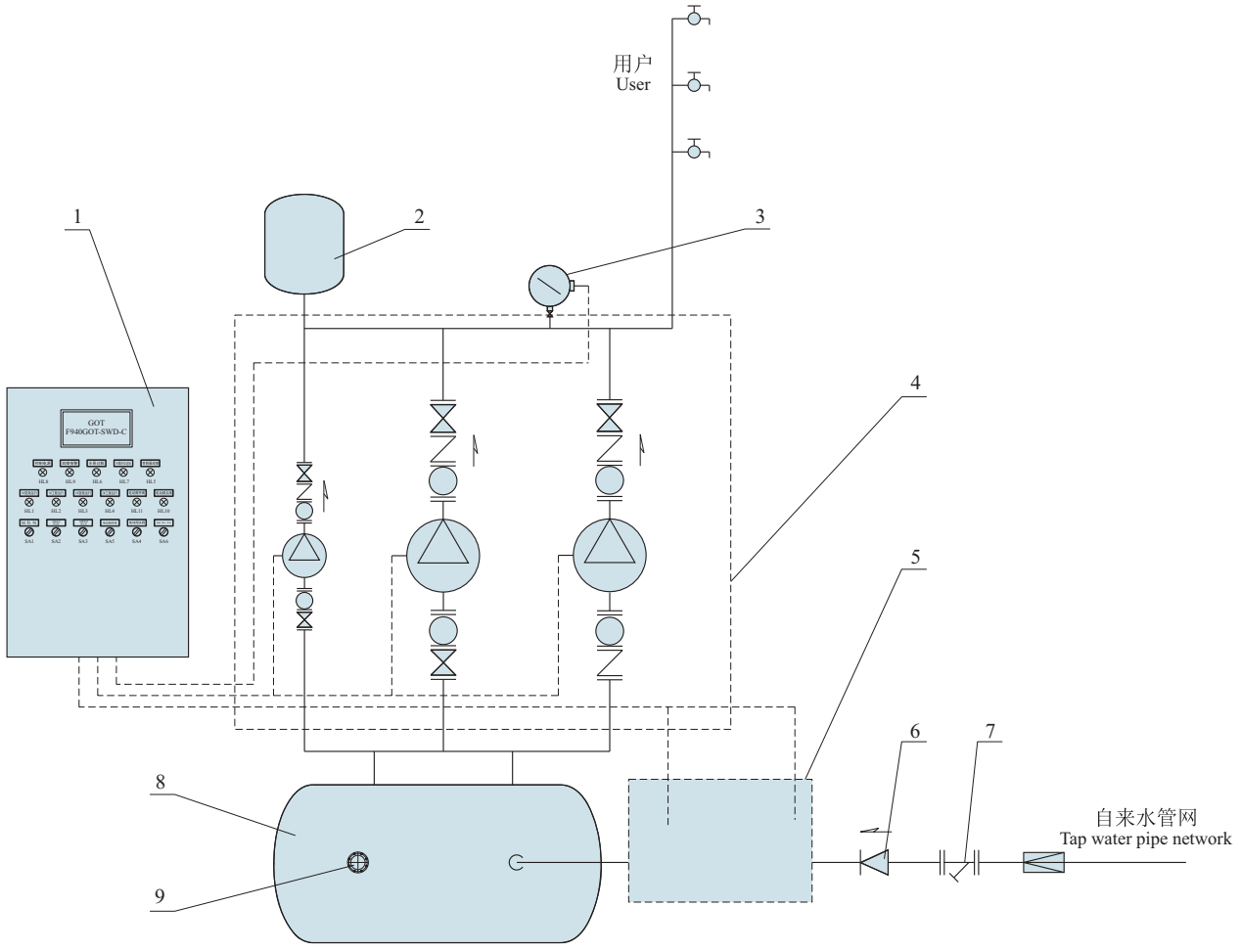
工作原理(以ZWL(Ⅰ)为例) Working principle (take ZWL(Ⅰ) as the example)

设备投入运行，自来水管网的水进入稳流罐。当管网的供水能力能够满足用水要求时，自来水管网压力维持在正常供水压力范围内，防负压模块控制电动阀打开，水泵运转实现叠压供水；当管网的供水能力不能满足用水要求时，自来水管网压力低于正常供水压力，防负压模块自动调整电动阀开度直至关闭，此时自动转换为稳流罐供水，稳流罐上的真空消除器也随之打开，避免了稳流罐内负压的产生。

When the equipment is put into movement, the water from the tap-water pipe-net flows into the flow stabilizing can. When the water supply capacity of the pipe-net can meet with the demand of use, the pressure of it is kept within the normal water supply range, the negative-pressure preventing module controlled electric valve is opened and the pump moves to carry out the pressure-overlapped water supply; while the said capacity can not meet with the demand, the pipe-net pressure is lower than that for normal water supply, the said module automatically adjusts the opening of the electric valve till its being closed, at this time water supply by the flow stabilizing can is automatically switched in. The vacuum eliminator on the said can is opened therewith, preventing a negative pressure from being produced inside of the can.

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

工作原理图 Work principle chart



WWG（Ⅰ）型管网叠压（无负压）供水设备原理图
Principle diagram of WWG (I) model pipe-net pressure-overlapped (non-negative-pressure) water supply equipment

1	变频控制柜 Variable frequency control cabinet	3	压力传感器 Pressure sensor	5	防负压模块 Anti-negative pressure module	7	过滤器 Filter	9	真空消除器 Vacuum remover
2	气压罐 Air pressure tank	4	水泵机组 Water pump unit	6	防倒流装置 Return flow preventer	8	稳流罐 Current stabilizing tank		

性能参数 Performance parameters

以下为部分成套设备性能参数，仅供参考，修改权为本公司所有。

Performance parameters (note: the followings are the performance parameters of the complete equipment, for reference only. This Co. keeps the right to mend)

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

性能参数 Performance parameters

序号 No.	型 号 Type	水 泵 Pump					稳流罐 Flow Stabilizing Tank			气压罐 Pneumatic Tank		推荐控制柜 Recommended Control Cabinet
		型 号 Type	流量 Capacity (m^3/h)	扬程 Head (m)	功率 Power (kw)	台数 No.of Pump	推荐型号 Recommended Model	只数 No.of Pieces	容积 Volume (m^3)	推荐型号 Recommended Model	总容积 Total Volume (m^3)	
1	WWG3.5/0.56--0.12L-2GQ	25GDL2-12×3	1.4 2 2.4	38 36 33	1.1	2	WL400	1	0.12	ML270-1.0	0.018	TPK-GM-1.1/2
2	WWG4.7/0.56-0.12L-2GQ	25GDL2-12×4	1.4 2 2.4	50 48 44	1.1	2	WL400	1	0.12	ML270-1.0	0.018	TPK-GM-1.1/2
3	WWG5.8/0.56-0.12L-2GQ	25GDL2-12×5	1.4 2 2.4	63 60 55	1.5	2	WL400	1	0.12	ML270-1.0	0.018	TPK-GM-1.5/2
4	WWG3.2/1.1-0.12L-2GQ	25GDL4-11×3	2.8 4 4.8	36 33 28.5	1.1	2	WL400	1	0.12	ML270-1.0	0.025	TPK-GM-1.1/2
5	WWG4.3/1.1-0.12L-2GQ	25GDL4-11×4	2.8 4 4.8	48 44 38	1.5.	2	WL400	1	0.12	ML270-1.0	0.025	TPK-GM-1.5/2
6	WWG5.4/1.1-0.12L-2GQ	25GDL4-11×5	2.8 4 4.8	60 55 47.5	2.2	2	WL400	1	0.12	ML270-1.0	0.025	TPK-GM-2.2/2
7	WWG3.5/0.92-0.12L-3GQ	25GDL2-12×3	1.4 2 2.4	38 36 33	1.1	3	WL400	1	0.12	ML270-1.0	0.025	TPK-GM-1.1/3
8	WWG4.7/0.92-0.12L-3GQ	25GDL2-12×4	1.4 2 2.4	50 48 44	1.1	3	WL400	1	0.12	ML270-1.0	0.025	TPK-GM-1.1/3
9	WWG5.9/0.92-0.12L-3GQ	25GDL2-12×5	1.4 2 2.4	63 60 55	1.5	3	WL400	1	0.12	ML270-1.0	0.025	TPK-GM-1.5/3
10	WWG3.5/1.67-0.3L-2GQ	40GDL6-12×3	4.2 6 7.2	41 36 30.5	1.5	2	WL600	1	0.3	ML400-1.0	0.06	TPK-GM-1.5/2
11	WWG4.7/1.67-0.3L-2GQ	40GDL6-12×4	4.2 6 7.2	54 48 40.6	2.2	2	WL600	1	0.3	ML400-1.0	0.06	TPK-GM-2.2/2
12	WWG5.9/1.67-0.3L-2GQ	40GDL6-12×5	4.2 6 7.2	68 60 51	2.2	2	WL600	1	0.3	ML400-1.0	0.06	TPK-GM-2.2/2
13	WWG2.9/3.3-0.3L-2GQ	50GDL12-15×2	8.4 12 14.4	36 30 24	2.2	2	WL600	1	0.3	ML400-1.0	0.12	TPK-GM-2.2/2
14	WWG4.4/3.3-0.3L-2GQ	50GDL12-15×3	8.4 12 14.4	54 45 36	3	2	WL600	1	0.3	ML400-1.0	0.12	TPK-GM-3/2
15	WWG5.9/3.3-0.3L-2GQ	50GDL12-15×4	8.4 12 14.4	72 60 48	4	2	WL600	1	0.3	ML400-1.0	0.12	TPK-GM-4/2
16	WWG2.9/5-0.7L-2GQ	50GDL18-15×2	12.6 18 21.6	36 30 25	3	2	WL800	1	0.7	ML400-0.6	0.12	TPK-GM-3/2
17	WWG4.4/5-0.7L-2GQ	50GDL18-15×3	12.6 18 21.6	54 45 37.5	4	2	WL800	1	0.7	ML450-1.0	0.18	TPK-GM-4/2
18	WWG5.9/5-0.7L-2GQ	50GDL18-15×4	12.6 18 21.6	72 60 50	5.5	2	WL800	1	0.7	ML450-1.0	0.18	TPK-GM-5.5/2
19	WWG3.5/6.7-0.7L-2GQ	65GDL24-12×3	16.8 24 28.8	40.5 36 33	4	2	WL800	1	0.7	ML450-1.0	0.18	TPK-GM-4/2
20	WWG4.7/6.7-0.7L-2GQ	65GDL24-12×4	16.8 24 28.8	54 48 44	5.5	2	WL800	1	0.7	ML600-0.6	0.34	TPK-GM-5.5/2
21	ZWL5.8/6.7-0.7L-2GQ	65GDL24-12×5	16.8 24 28.8	67.5 60 55	7.5	2	WL800	1	0.7	ML600-1.0		LBP-GM-7.5/2
22	WWG3.5/10-1.4L-2GQ	80GDL36-12×3	25.2 36 43.2	40.5 36 31.5	5.5	2	WL1000	1	1.4	ML600-0.6	0.34	TPK-GM-5.5/2
23	WWG4.7/10-1.4L-2GQ	80GDL36-12×4	25.2 36 43.2	54 48 42	7.5	2	WL1000	1	1.4	ML600-0.6	0.34	TPK-GM-7.5/2

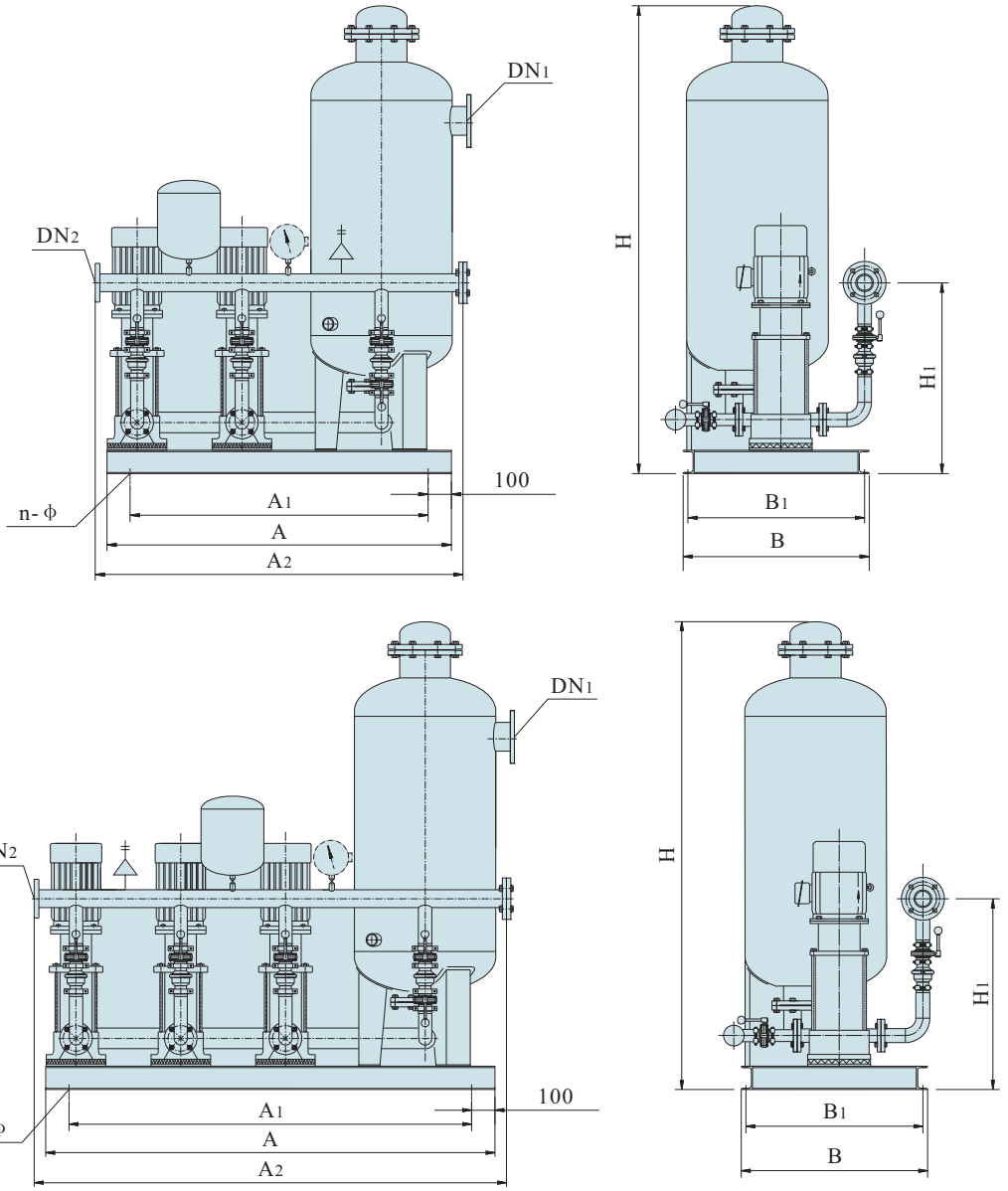
WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

性能参数 Performance parameters

序号 No.	型号 Type	水泵 Pump					稳流罐 Flow Stabilizing Tank			气压罐 Pneumatic Tank		推荐控制柜 Recommended Control Cabinet
		型号 Type	流量 Capacity (m^3/h)	扬程 Head (m)	功率 Power (kw)	台数 No.of Pump	推荐型号 Recommended Model	只数 No.of Pieces	容积 Volume (m^3)	推荐型号 Recommended Model	总容积 Total Volume (m^3)	
24	WWG5.8/10-1.4L-2GQ	80GDL36-12×5	25.2 36 43.2	67.5 60 52.5	11	2	WL1000	1	1.4	ML600-1.0	0.34	TPK-GM-11/2
25	WWG2.7/15-1.4L-2GQ	80GDL54-14×2	37.8 54 64.8	32 28 25	7.5	2	WL1000	1	1.4	ML600-0.6	0.34	TPK-GM-7.5/2
26	WWG4.1/15-1.4L-2GQ	80GDL54-14×3	37.8 54 64.8	48 42 37.5	11	2	WL1000	1	1.4	ML800-0.6	0.8	TPK-GM-11/2
27	WWG5.5/15-1.4L-2GQ	80GDL54-14×4	37.8 54 64.8	64 56 50	15	2	WL1000	1	1.4	ML800-1.0	0.8	TPK-GM-15/2
28	WWG3.2/1.85-0.4W-3GQ	25GDL4-11×3	2.8 4 4.8	36 33 28.5	1.1	3	WW600	1	0.4	ML400-1.0	0.06	TPK-GM-1.1/3
29	WWG4.3/1.85-0.4W-3GQ	25GDL4-11×4	2.8 4 4.8	48 44 38	1.5	3	WW600	1	0.4	ML400-1.0	0.06	TPK-GM-1.5/3
30	WWG5.4/1.85-0.4W-3GQ	25GDL4-11×5	2.8 4 4.8	60 55 47.5	2.2	3	WW600	1	0.4	ML450-1.0	0.08	TPK-GM-2.2/3
31	WWG3.5/2.78-0.4W-3GQ	40GDL6-12×3	4.2 6 7.2	41 36 30.5	1.5	3	WW600	1	0.4	ML450-1.0	0.08	TPK-GM-1.5/3
32	WWG4.7/2.78-0.4W-3GQ	40GDL6-12×4	4.2 6 7.2	54 48 40.6	2.2	3	WW600	1	0.4	ML450-1.0	0.08	TPK-GM-2.2/3
33	WWG5.9/2.78-0.4W-3GQ	40GDL6-12×5	4.2 6 7.2	68 60 51	2.2	3	WW600	1	0.4	ML400-1.0	0.12	TPK-GM-2.2/3
34	WWG2.9/5.5-0.8W-3GQ	50GDL12-15×2	8.4 12 14.4	36 30 24	2.2	3	WW800	1	0.8	ML400-0.6	0.12	TPK-GM-2.2/3
35	WWG4.4/5.5-0.8W-3GQ	50GDL12-15×3	8.4 12 14.4	54 45 36	3	3	WW800	1	0.8	ML450-1.0	0.18	TPK-GM-3/3
36	WWG5.9/5.5-0.8W-3GQ	50GDL12-15×4	8.4 12 14.4	72 60 48	4	3	WW800	1	0.8	ML450-1.0	0.18	TPK-GM-4/3
37	WWG2.9/8.3-1.6W-3GQ	50GDL18-15×2	12.6 18 21.6	36 30 25	3	3	WW1000	1	1.6	ML450-1.0	0.18	TPK-GM-3/3
38	WWG4.4/8.3-1.6W-3GQ	50GDL18-15×3	12.6 18 21.6	54 45 37.5	4	3	WW1000	1	1.6	ML600-0.6	0.34	TPK-GM-4/3
39	WWG5.9/8.3-1.6W-3GQ	50GDL18-15×4	12.6 18 21.6	72 60 50	5.5	3	WW1000	1	1.6	ML600-1.0	0.34	TPK-GM-5.5/3
40	WWG3.5/11.1-1.6W-3GQ	65GDL24-12×3	16.8 24 28.8	40.5 36 33	4	3	WW1000	1	1.6	ML600-0.6	0.34	TPK-GM-4/3
41	WWG4.7/11.1-1.6W-3GQ	65GDL24-12×4	16.8 24 28.8	54 48 44	5.5	3	WW1000	1	1.6	ML600-0.6	0.34	TPK-GM-5.5/3
42	WWG5.9/11.1-1.6W-3GQ	65GDL24-12×5	16.8 24 28.8	67.5 60 55	7.5	3	WW1000	1	1.6	ML800-1.0	0.8	TPK-GM-7.5/3
43	ZWL3.5/16.7-2.6W-3GQ	×3	25.2 36 43.2	40.5 36 31.5	5.5	3	WW1200	1	2.6	ML800-0.6	0.8	LBP-GM-5.5/3
44	WWG4.7/16.7-2.6W-3GQ	80GDL36-12×4	25.2 36 43.2	54 48 42	7.5	3	WW1200	1	2.6	ML800-0.6	0.8	TPK-GM-7.5/3
45	WWG5.9/16.7-2.6W-3GQ	80GDL36-12×5	25.2 36 43.2	67.5 60 52.5	11	3	WW1200	1	2.6	ML800-1.0	0.8	TPK-GM-11/3

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

设备外形及安装尺寸 Equipment figure and installing dimensions



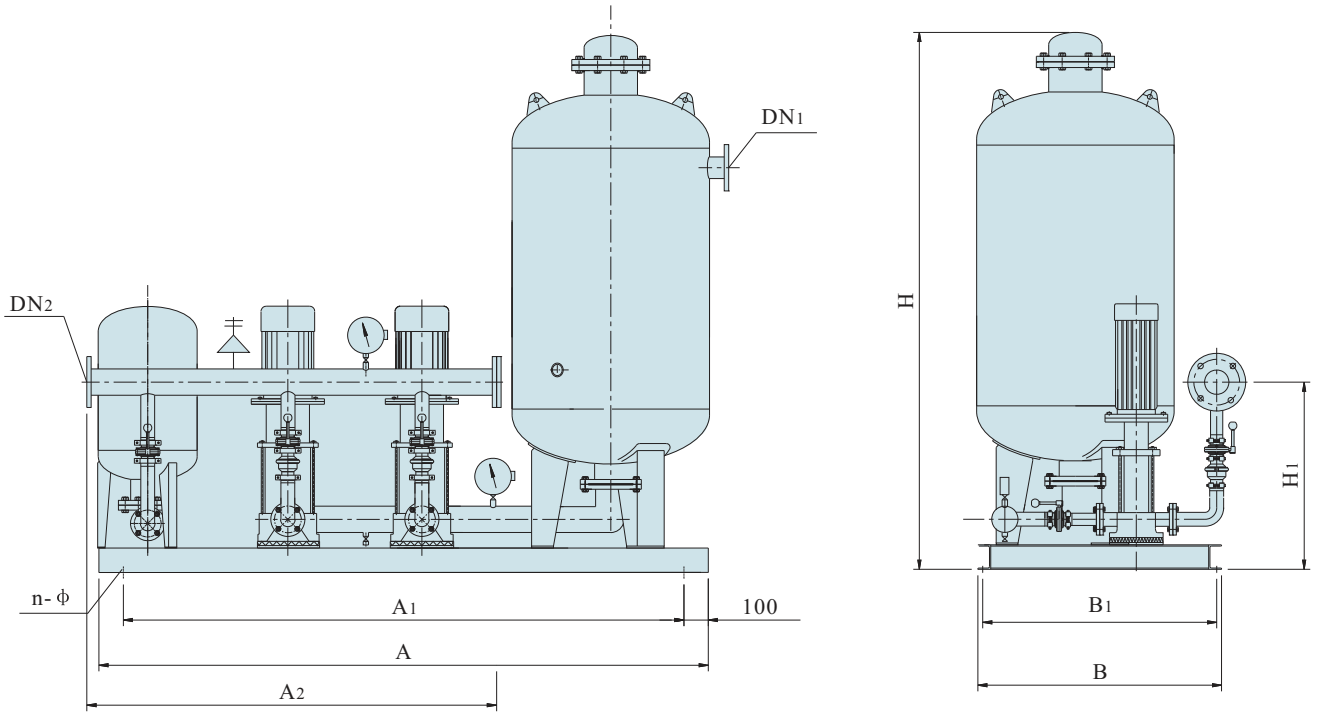
序号 No.	型 号 Type	A	A1	A2	B	B1	H	H1	DN1	DN2	n	ϕ
1	WWG3.5/0.56--0.12L-2GQ	1300	1100	1400	600	560	1380	700	50	50	4	20
2	WWG4.7/0.56-0.12L-2GQ	1300	1100	1400	600	560	1380	700	50	50	4	20
3	WWG5.8/0.56-0.12L-2GQ	1300	1100	790	600	560	1380	700	50	50	4	20
4	WWG3.2/1.1-0.12L-2GQ	1300	1100	1400	600	560	1380	700	50	50	4	20
5	WWG4.3/1.1-0.12L-2GQ	1300	1100	1400	600	560	1380	700	50	50	4	20
6	WWG5.4/1.1-0.12L-2GQ	1300	1100	790	600	560	1380	700	50	50	4	20
7	WWG3.5/0.92-0.12L-3GQ	1750	1550	1850	600	560	1400	700	50	50	4	20
8	WWG4.7/0.92-0.12L-3GQ	1750	1550	1850	600	560	1400	700	50	50	4	20
9	WWG5.9/0.92-0.12L-3GQ	1750	1550	1240	600	560	1400	700	50	50	4	20

注：以上是WWG智慧型管网叠压（无负压）设备安装基础图，与WWG(I)相同。

Note: The above shows WWG intelligent pipe-net pressure-overlapped (non-negative-pressure) equipment installating chart, same as WWG(I).

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

设备外形及安装尺寸 Equipment figure and installing dimensions



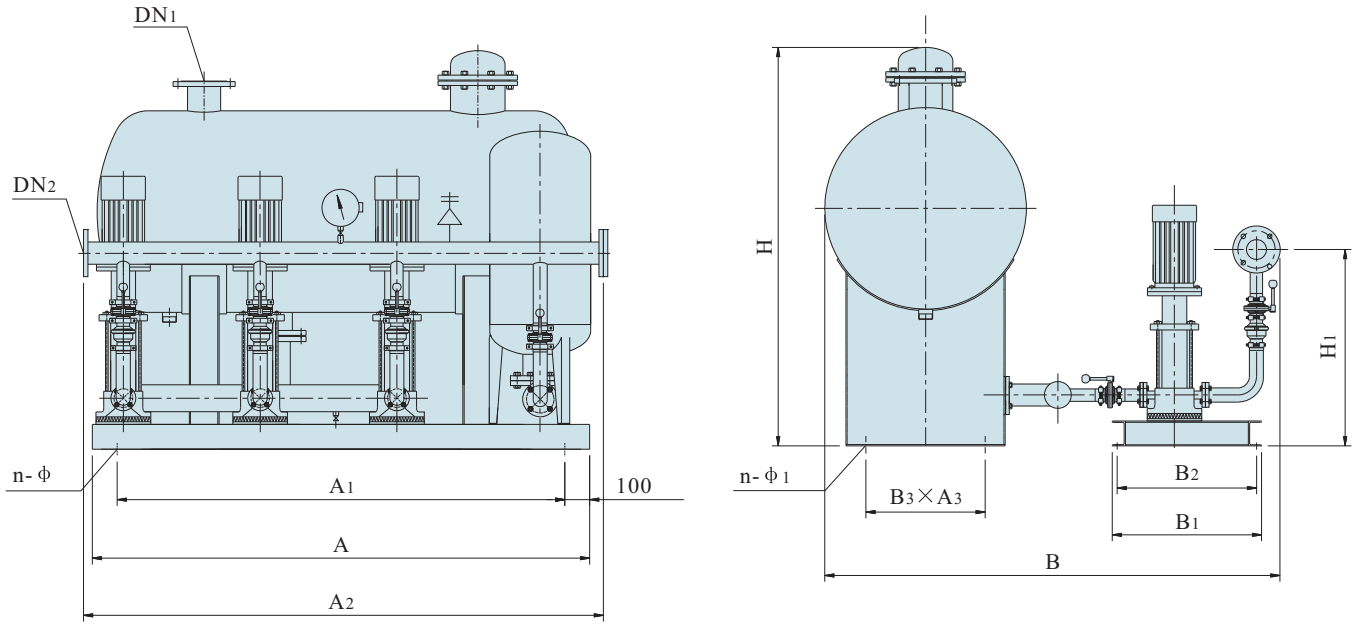
序号 No.	型 号 Type	A	A1	A2	B	B1	H	H1	DN1	DN2	n	ϕ
10	WWG3.5/1.67-0.3L-2GQ	2200	2000	2300	800	760	1758	800	100	50	4	20
11	WWG4.7/1.67-0.3L-2GQ	2200	2000	2300	800	760	1758	800	100	50	4	20
12	WWG5.9/1.67-0.3L-2GQ	2200	2000	1470	800	760	1758	800	100	50	4	20
13	WWG2.9/3.3-0.3L-2GQ	2300	2100	2400	800	760	1808	800	100	80	4	20
14	WWG4.4/3.3-0.3L-2GQ	2300	2100	2400	800	760	1808	800	100	80	4	20
15	WWG5.9/3.3-0.3L-2GQ	2300	2100	1560	800	760	1808	800	100	80	4	20
16	WWG2.9/5-0.7L-2GQ	2500	2300	2600	1000	960	2220	800	125	80	6	20
17	WWG4.4/5-0.7L-2GQ	2500	2300	2600	1000	960	2220	800	125	80	6	20
18	WWG5.9/5-0.7L-2GQ	2500	2300	1560	1000	960	2220	800	125	80	6	20
19	WWG3.5/6.7-0.7L-2GQ	2500	2300	2600	1000	960	2270	850	125	100	6	20
20	WWG4.7/6.7-0.7L-2GQ	2700	2500	2800	1000	960	2270	850	125	100	6	20
21	WWG5.8/6.7-0.7L-2GQ	2700	2500	1760	1000	960	2270	850	125	100	6	20
22	WWG3.5/10-1.4L-2GQ	3000	2800	3100	1200	1160	2629	900	150	100	6	20
23	WWG4.7/10-1.4L-2GQ	3000	2800	3100	1200	1160	2629	900	150	100	6	20
24	WWG5.8/10-1.4L-2GQ	3000	2800	3100	1200	1160	2629	900	150	100	6	20
25	WWG2.7/15-1.4L-2GQ	3050	2850	3150	1200	1160	2679	900	150	125	6	20
26	WWG4.1/15-1.4L-2GQ	3250	3050	3150	3350	1160	2679	900	150	125	6	20
27	WWG5.5/15-1.4L-2GQ	3250	3050	3150	3350	1160	2679	900	150	125	6	20

注：以上是WWG智慧型管网叠压(无负压)设备安装基础图，与WWG(I)相同。

Note: The above shows WWG intelligent pipe-net pressure-overlapped (non-negative-pressure) equipment installating chart, same as WWG(I).

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

设备外形及安装尺寸 Equipment figure and installing dimensions



序号 No.	型 号 Type	A	A1	A2	A3	B	B1	B2	B3	H	H1	DN1	DN2	n	n1	ϕ	ϕ1
28	WWG3.2/1.85-0.4W-3GQ	1900	1500	1500	850	1600	600	560	400	1252	700	100	50	4	4	20	20
29	WWG4.3/1.85-0.4W-3GQ	1900	1500	1500	850	1600	600	560	400	1252	700	100	50	4	4	20	20
30	WWG5.4/1.85-0.4W-3GQ	2000	1600	1500	850	1650	650	660	400	1252	700	100	50	4	4	20	20
31	WWG3.5/2.78-0.4W-3GQ	2000	1600	1500	850	1600	650	660	400	1252	750	100	50	4	4	20	20
32	WWG4.7/2.78-0.4W-3GQ	2000	1600	1500	850	1600	650	660	400	1252	750	100	50	4	4	20	20
33	WWG5.9/2.78-0.4W-3GQ	1900	1500	1500	850	1550	600	560	400	1252	750	100	50	4	4	20	20
34	WWG2.9/5.5-0.8W-3GQ	1900	1500	1800	1000	1800	600	560	480	1370	800	125	65	4	4	20	20
35	WWG4.4/5.5-0.8W-3GQ	2000	1600	1800	1000	1800	650	660	480	1370	800	125	65	4	4	20	20
36	WWG5.9/5.5-0.8W-3GQ	2000	1600	1800	1000	1800	650	660	480	1370	800	125	65	4	4	20	20
37	WWG2.9/8.3-1.6W-3GQ	2000	1600	2200	1150	2000	650	610	600	1622	800	150	100	4	4	20	24
38	WWG4.4/8.3-1.6W-3GQ	2100	1700	2200	1150	2000	800	760	600	1622	800	150	100	4	4	20	24
39	WWG5.9/8.3-1.6W-3GQ	2100	1700	2200	1150	2000	800	760	600	1622	800	150	100	4	4	20	24
40	WWG3.5/11.1-1.6W-3GQ	2400	2000	2200	1150	2050	800	760	600	1622	850	150	100	6	4	20	24
41	WWG4.7/11.1-1.6W-3GQ	2400	2000	2200	1150	2050	800	760	600	1622	850	150	100	6	4	20	24
42	WWG5.9/11.1-1.6W-3GQ	2600	2200	2200	1150	2050	1000	960	600	1622	850	150	100	6	4	20	24
43	WWG3.5/16.7-2.6W-3GQ	2600	2200	2600	1350	2500	1000	960	720	2029	900	150	150	6	4	20	24
44	WWG4.7/16.7-2.6W-3GQ	2600	2200	2600	1350	2500	1000	960	720	2029	900	150	150	6	4	20	24
45	WWG5.9/16.7-2.6W-3GQ	2900	2500	2600	1350	2500	1000	960	720	2029	900	150	150	6	4	20	24

注：以上是WWG智慧型管网叠压（无负压）设备安装基础图，与WWG(I)相同。

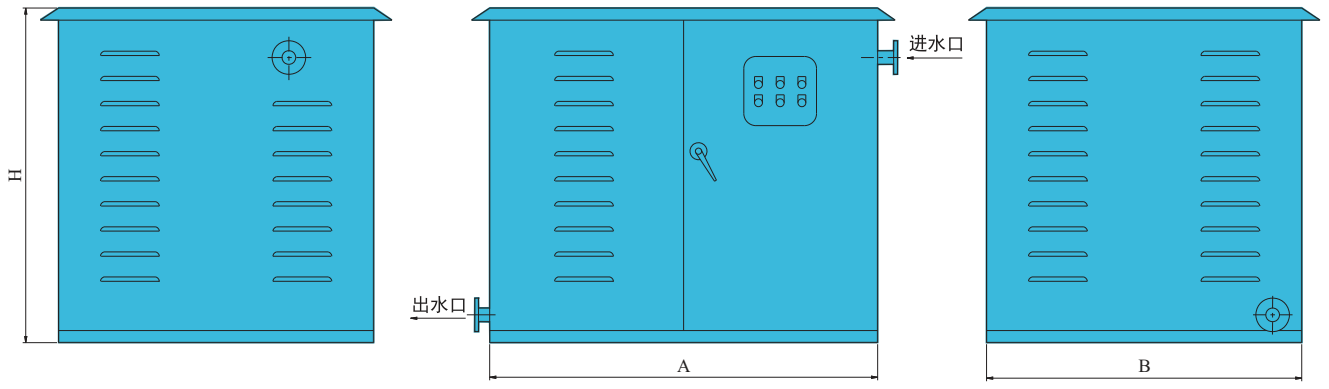
Note: The above shows WWG intelligent pipe-net pressure-overlapped (non-negative-pressure) equipment installating chart, same as WWG(I).

WWG CANNERY TYPE PIPE-NET PRESSURE-OVERLAPPED (NON-NEGATIVE PRESSURE) WATER SUPPLY EQUIPMENT

性能参数 Performance parameters

序号 No.	型 号 Type	水 泵 Pump					稳流罐 Flow Stabilizing Tank	气压罐 Pneumatic Tank	变频控制柜 Frequency conversion control cabinet	外形尺寸 (mm) Figure dimension (A×B×H)
		型 号 Type	流量 Capacity (m^3/h)	扬程 Head (m)	功率 Power (kw)	台数 No.of Pump				
1	WWG(V)4.2/15-0.6W-2GQ	80GDL54-14×3	54	42	11	2	WW800	ML400-0.6	TPK-GM-11/2	2400×1900×1800
2	WWG(V)3.6/10-0.6W-2GQ	80GDL36-12×3	36	36	5.5	2	WW800	ML600-0.6	TPK-GM-5.5/2	2400×1900×1800
3	WWG(V)4.8/11.1-0.34W-3GQ	65GDL24-12×4	24	48	7.5	3	WW600	ML600-0.6	TPK-GM-5.5/3	2300×2200×1600
4	WWG(V)6/11.1-0.34W-3GQ	65GDL24-12×5	24	60	5.5	3	WW600	ML600-1.0	TPK-GM-7.5/3	2300×2200×1600
5	WWG(V)6/8.3-0.34W-3GQ	50GDL18-15×4	18	60	5.5	3	WW600	ML600-0.6	TPK-GM-5.5/3	2300×2050×1600
6	WWG(V)6/5.6-0.34W-2GQ	50GDL12-15×4	12	60	4	2	WW600	ML300-0.6	TPK-GM-4/2	1600×1300×1600
7	WWG(V)6/1.7-0.34W-2GQ	40GDL6-12×5	6	60	2.2	2	WW600	ML300-0.6	TPK-GM-2.2/2	1800×1600×1600
8	WWG(V)2.8/3.3-0.6W-2SQ	SLS50-160A	11.7	28	2.2	2	WW800	ML400-0.6	TPK-GM-2.2/2	2100×1900×1800
9	WWG(V)2.8/8.3-0.6W-2SQ	SLS65-160	25	32	4	2	WW800	ML400-0.6	TPK-GM-4/2	2300×1900×1800
10	WWG(V)4.4/13.3-0.6W-2SQ	SLS65-200(I)A	47	44	11	2	WW800	ML400-0.6	TPK-GM-11/2	1600×1900×1600
11	WWG(V)4.4/3.3-0.6W-2SQ	SLS40-200(I)A	11.7	44	4	2	WW600	ML300-0.6	TPK-GM-4/2	1600×1900×1600
12	WWG(V)5.8/8.4-1.6WP-3CRQ	CR15-6	15	58	5.5	3	WW1000P	ML600-0.6	TPK-GM-5.5/3	2200×1900×2000
13	WWG(V)5.8/4.2-0.34WP-2CRQ	CR15-5	15	58	4	2	WW600P	ML600-0.6	TPK-GM-4/2	1700×1800×1600
14	WWG(V)5.8/19-0.34WP-2CRQ	CR45-3	45	58	11	2	WW600P	ML600-0.6	TPK-GM-11/2	2000×1500×2100
15	WWG(V)5.5/2.2-0.34WP-2FQ	SLG8-6	8	55.2	2.2	2	WW600P	ML300-0.6	TPK-GM-2.2/2	1600×2000×1600
16	WWG(V)7.4/2.2-0.34WP-2FQ	SLG8-8	8	73.6	3	2	WW600P	ML300-1.0	TPK-GM-3/2	1600×2000×1600
17	WWG(V)8/8.9-0.6WP-2FQ	SLG32-6-2	32	80	11	2	WW800P	ML400-1.0	TPK-GM-11/2	2200×1900×1800

设备外形及安装尺寸 Equipment figure and installing dimensions



注：1、以上为常用设备型号，也可根据用户实际需求灵活配置。
Note: the above shows the models of common equipments, flexible allocations upon the actual demand from users can also be made.

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稳流罐型号意义 Model meanings of current stabilizing tank

W □ □ - P

- P：材质为不锈钢（碳钢无标识）Material is stainless steel (no mark if carbon steel)
- □：稳流罐公称直径 (mm) Nominal diameter of current stabilizing tank (mm)
- □：稳流罐型式：L-立式，W-卧式 Model of current stabilizing tank: L vertical, W horizontal
- W：稳流罐 Current stabilizing tank

立式稳流罐参数 Parameter of vertical stable current tank

序号 No.	公称直径 Nominal diameter (mm)	进水管口径 Diameter of water inlet pipe (mm)	容积 Volume (L)	高度 Height (mm)	壁厚 Wall thickness (mm)	重量 Weight (Kg)
					304	304
1	400	DN50	130	1360	5	80
2	600	DN100	340	1670	5	140
3	800	DN125	800	2200	5	250
4	1000	DN150	1360	2400	5	335
5	1200	DN150	2300	2830	5	475

卧式稳流罐参数 Parameter of horizontal stable current tank

序号 No.	公称直径 Nominal diameter (mm)	进水管口径 Diameter of water inlet pipe (mm)	容积 Volume (L)	高度 Height (mm)	长度 Length (mm)	壁厚 Wall thickness (mm)	重量 Weight (Kg)
						304	304
1	400	DN50	130	1000	1100	4	170
2	600	DN100	400	1250	1260	4	220
3	800	DN125	1000	1500	1560	4	350
4	1000	DN150	1600	1705	1760	4	440
5	1200	DN150	2700	2030	2160	4	620

罐式管网叠压(无负压)控制柜选型须知

Notice at the model selection of cannery type pipe-net pressure-overlapped (non-negative-pressure) control cabinet

由于TPK系列变频控制系统规格繁多，为了免除用户因选型不当或使用方法错误所引起的设备故障，请在定货前，务必详细阅读选型样本中电气控制柜的各项性能特性，然后在定货时将使用条件、要求一一注明，这样才能选到最适宜使用的产品。本公司也可根据用户的使用条件、要求，帮助选型。

1、定货时，用户一定要指明控制特征、电机功率及水泵台数。

2、定货时，用户若对柜体的形状、颜色有特殊要求的，请务必注明。

3、在定货时，用户如有特殊功能要求，请在签定供货合同时注明。

4、变频控制柜的附加功能，可根据用户要求，进行特殊设计。

5、选用TPKⅤ计算机控制和TPKⅥ计算机远程网络控制时，用户若需增加特殊功能要求时，可根据用户要求，进行特殊设计。

6、控制柜出厂时配套远传压力表及阻力器，已含报价中。电控柜与电源、电机、压力表、液位计之间的连线由用户自备。若用户要求其他附加功能增加附件时，请在合同中注明。

Because of various specifications available with LBP series inverter control system and in order to prevent any equipment failure due to improper model selection or use of wrong way, please, prior to setting an order, do carefully read the various features of performance with the electric control cabinet in the model selection catalog and then note the conditions of use and the requirements at order so as to get a most proper product. This Co. will also bear a hand in the model selection upon the conditions and requirements of use at the user's.

1. Users are required at order to note the control characteristics, the power of motor and the number of pump.

2. Users are required at order to note the shape and color of the cabinet in case of special requirements on them.

3. Users are required to note the special functions, if any, at signing the supply contract.

4. A special design can be done for any additional functions with the inverter control cabinet if so required by users.

5. In case of any special requirements users need to add when selecting LBPV computer control and LBPVI computer remote network control, a special design can be done thereby.

6. Both corollary remote transmitting pressure gauge and resistor at ex-works of the control cabinet have been included in the quotation. The wires used in between the cabinet and the power supply, motor, pressure gauge and liquid leveler are prepared by users. Please make note in the contract if users need to add any accessories for any additional functions.

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ZWL型罐式管网叠压(无负压)设备选型须知

Notice at the model selection of model ZWL cannery type pipe-net pressure-overlapped (non-negative-pressure) equipment control cabinet

1、设备模块配置：⑴WWG/WWG(IV)罐式管网叠压(无负压)供水设备均不配防负压模块。若有要求，请在合同中注明。

⑵WWG(I)罐式管网叠压(无负压)供水设备配有防负压模块，并要在合同中注明其通径和材质。

2、防负压模块通径选型参考：

1. WWG/WWG(IV) cannery type pipe-net pressure-overlapped (non-negative-pressure) water supply equipments are not equipped with the negative pressure preventing module and, if needed, please note it in the contract.

(2)WWG(I) cannery type pipe-net pressure-overlapped (non-negative-pressure) water supply equipment is equipped with the negative pressure preventing module and users are required to note the nominal diameter and material in the contract.

2. Reference for model selection of the nominal diameter of negative-pressure preventing module

通径 DN	DN65	DN80	DN100	DN125	DN150	DN200
设备供水流量 Water supply flow of equipment	0~14m^3/h	15~22m^3/h	23~34m^3/h	35~53m^3/h	54~76m^3/h	77~135m^3/h

3、设备管路配置：默认不配旁通管路，如有要求，合同中注明。

4、稳压罐选型规则：⑴生活供水系统稳压罐易选用小型稳压罐，流量＜50m^3/h时， 选用小型稳压罐：如ML270，ML380等，用来起到停机保压的作用，消除水锤，并且能够避免压力波动对管网的影响。使用在用水频繁的供水系统，如医院，酒店等

⑵在间歇供水系统，且间歇时间长，流量波动很大的条件。流量≥50m^3/h时，则选用较大的稳压罐，如ML400，ML600 等，设备整体运行成本较低。

5、小流量泵选型：设备若在间歇用水的场合使用，则建议配备小流量泵。如居民小区、办公楼。节能的效果更显著。

6、水泵进出口软接头的配置：水泵口径≤DN50，由于水泵震动小，公司标配不含软接头，若有要求请在合同中注明。

3. Pipeline allocation: it is the default that no bypass pipeline is allocated and, if needed, please note it in the contract.

4. Rules for model selection of pressure stabilizing can: (1) It is proper to select small cans like ML270, ML380 etc. for the living water system at a flow ＜50m^3/h so as to carry out the stop pressure-keeping function, eliminate water hammers and avoid the affection to the pipe-net at the pressure fluctuation. Used with the water supply system with water used frequently, as hospitals, restaurants etc.

(2)When used with an intermittent water supply system, which is in a long intermittent time and a heavy flow fluctuation, and, when the flow is =50m^3/h, select a bigger pressure stabilizing can, like ML400, ML600 etc., leaving a lower cost at the equipment integrated movement.

5. Model selection of small flow pump: when the equipment is used in an intermittent water supply, it is recommended equip a small flow pump, such as a residence quarter, an office building, resulting in a more notable effect of energy-saving.

6. Allocation of the soft joints at both inlet and outlet of the pump: the standard allocation contains no soft joint for the pump aperture =DN50, because of a small pump shock. In case of any requirement, please note it in the contract.

7、稳流罐容积V的选型依据：

ｉ）稳流罐的作用：a、对市政管网启稳流和缓冲的作用

b、高峰用水时，起调节补偿水源的作用

ii）稳流罐的补偿调蓄容积V,应按流入量和供出量的变化曲线经计算确定。若资料不足时，按一下公式计算。

V=(Q1-Q2)×△T

Q1：设计出水流量，单位：立方米每小时（m^3/h）

Q2：供水高峰时市政管网流入次供水设备的最少流量，单位：立方米每小时（m^3/h）

△T：用水高峰持续的时间，根据不同地区条件确定。一般△T为：5s~15min.

8、生活用水参考户数：

7. Basis for selecting the volume V of the flow stabilizing can:

i)Action of the said can: a. stabilize and buffer the flow for the municipal works pipe-net.

b. adjust and compensate the water source at the peak time of use.

ii)The compensated volume V of the flow stabilizing can shall be decided by means of calculation upon the variable curves of both flow-in and delivered quantities. In case of insufficient information, calculate it with the formula below:

V=(Q1-Q2)× ΔT

Q1: designed delivered flow, unit: m3/h

Q2: the minimum flow at the peak time of water supply flowing into the secondary water supply equipment from the municipal works pipe-net, unit: m3/h

ΔT: the continued time at the peak of water use, decided upon the conditions in different areas. In general, ΔT comes as: 5s~15min.

8. Family number for living water (for reference):

供水流量 Water supply flow (m^3/h)	8	16	32	50	65	90	130	180
参考户数 Family number(for reference)	25	60	150	250	405	600	1000	1500

开箱及检查 Unpacking and check

1、开箱时请查收以下资料：

（1）装箱清单1份

（2）产品合格证1份

（3）产品使用说明书1份

（4）电气控制原理图1份

（5）设备外形尺寸图1份

2、按装箱清单及图纸进行查验，设备不应有缺件、损坏和锈蚀等现象，管口保护或堵盖应完好。

1. Please check the following information when unpacking:

(1) 1 packing list

(2) 1 product certificate

(3) 1 operation manual

(4) 1 schematic drawing of electric control

(5) 1 figure dimensions drawing

2. Check according to the list and the drawings supplied if there are lack of parts, damages, rustness, corrosion etc. Conditions and if the protection on the pipe mouth or blocking cover intack.

安装与调试 Installation and adjustment

1、基础尺寸应按厂家提供的基础图施工，其位置和标高应符合工程设计及TJ231中“设备基础尺寸和位置的质量要求”；

2、设备就位后用水平仪找平，其纵横向水平度应小于0.1%；

3、设备安装找平后，用膨胀水泥对基础进行二次灌浆，保养24h后再进行配管；

4、管道安装完毕后应对系统进行清洗和吹扫；

5、打开主管进水阀，向稳流罐注水；

6、打开水泵进口阀，关闭出口阀，逐一打开泵的排气阀，待液体充满泵腔后关闭排气阀；

7、将转换开关SA1置于“手动”位置，分别操作SA2、SA3点动水泵，其运转方向应与标注箭头一致；

8、手动逐台启停水泵，检查水泵运转情况（参见水泵使用说明书）；

9、将转换开关SA6置于“手动”位置，分别操作SA4、SA5，电动阀开、关应灵活准确；

10、将转换开关SA6置于“自动”位置，将主管进口压力表上、下限指针拨至管网压力以上，电动阀应自动关闭（电动阀运行期间将下限指针拨至管网压力以下，电动阀应停止运行）；再将压力表上、下限指针拨至低于管网压力，电动阀应自动打开；

11、将转换开关SA1置于“自动”位置，操作触摸屏调整设定压力，水泵转速应随之改变。

1. Construct the basic dimension upon the basis drawing provided by the manufacturer and both position and height shall conform the project design and the “quality requirements on the equipment basic dimensions and positions” in TJ231.

2. Do leveling with a leveler after the equipment is mounted in place and both longitudinal lateral levelness of it shall be less than 0.1%.

3. After leveling, do secondary grouting for the basis with expansion cement and then do fitting, after being maintained for 24h.

4. After pipeline installation, clean and blow the system.

5. Open the incoming water valve of the main pipe to prime water into the flow stabilizing can.

6. Open the inlet valve of the pump and close the outlet one. Open the exhaust valves of the pump one after another and then close them when the pump cavity is full of liquid.

7. Set the reversal switch SA1 to the “manual” position, operate SA2 and SA3 separately to have the pump in spot movement, the moving direction of it shall be identical to that of the marked arrow.

8. Manually start and stop the pumps one by one to check the movement condition (see the operation instructions of pump).

9. Set the reversal switch SA6 to the “manual” position and operate SA4 and SA5 separately, the electric valve shall be flexibly and accurately opened and closed.

10. Set the reversal switch SA6 to the “auto” position and turn the up- and lower-limit pointers of the pressure gauge at the inlet of the main pipe to that place over the pipe-net pressure, the electric valve shall be automatically closed (it shall stop working when the lower-limir pointer is turned to below the said pressure during its movement); and opened when the said pointers are turned to below the said pressure.

11. Set the reversal switch SA1 to the “auto" position and operate the touchable screen to adjust the set pressure, the speed of the pump shall be changed therewith.

操作与维护 Operation and maintenance

1、调整进水管电接点压力表上限指针为当前压力值；下限指针为管网压力下限值；

2、操作触摸屏调整设定压力为所需值；

3、将转换开关SA1、SA6置于“自动”位置，设备投入运行；

4、水泵不应在出口阀门全闭的情况下长期运行，也不应在性能曲线中驼峰处运行，更不能空运转。当轴封采用盘根密封时允许有10~20滴/min的泄漏；采用机械密封时允许有2~3滴/min的泄漏；

5、运行时轴承温度不得高于75℃；

6、水泵在每运行500小时时应对轴承进行一次加油；

7、设备长期停运应采取必要措施，防止设备玷污和锈蚀，冬季停运应采取防冻、保暖措施；

8、运行设备应视水质情况定期排污。

1. Adjust the up-limit pointer of the pressure gauge at the electric joint of the incoming water pipe to the current pressure value and the lower-limit one to the lower-limit value of the pipe-net pressure.

2. Operate the touchable screen to adjust the set pressure to the desired value.

3. Set the reversal switch SA1, SA6 to the “auto” position to have the equipment put into work.

4. Do not have the pump work for a long time with the outlet valve fully closed, at the hump of the performance curve and, furthermore, idly. When a packing seal is used as the shaft seal, leak of 10~20 drops/min is allowed and 2~3 drops/min in case of a mechanical seal.

5. The bearing temperature at work shall not be over 75℃.

6. Lubricate the bearing once per 500h work of the pump.

7. Take necessary measures when to have the equipment stop working for a long term so as to prevent it from getting dirty and corroded and, in the winter, take the measures of freeze-prevention and warm-keep.

8. Drain sewage in a fixed period upon the water quality for the working equipment.

故障原因及排除方法 Failures causes and troubleshooting

故障 Failure	故障原因 Cause	解决方法 Troubleshooting
故障报警、水泵过载指示灯亮 Failure alarm, the over-load indicator of the pump becomes lit	1、叶轮与泵壳间隙太小，有磨擦现象； Too small space between both impeller and pump casing, friction exists. 2、泵内吸入杂物； Impurities are sucked into the pump. 3、轴承磨损； The bearing is worn out. 4、填料太紧或填料函缺水； Too tight packing or the packing box is lack of water. 5、泵轴弯曲。 The pump shaft gets bent.	1、检查叶轮间隙，加以修理； Check the space, adjust it. 2、拆卸并清除杂物 Remove the pump and get rid of the impurities. 3、更换损坏轴承； Replace it. 4、放松填料压盖，检查、清洗水封管； Loosen the packing gland, check and clean the water sealed pipe. 5、拆出轴进行调直。 Take it out and make it straight.
故障报警、稳流罐水位过低指示灯亮 Failure alarm, the level over-low indicator of the flow stabilizing can gets lit	1、管网压力过低或停水； The pipe-net pressure is over-low or water supply stops. 2、稳流罐缺水。 The flow stabilizing can is lack of water.	1、正常停水等管网来水； Normally stop it and wait for the water coming from the pipe-net. 2、来水后向稳流罐注水。 Prime water into the can when water comes.
故障报警、变频器故障指示灯亮 Failure alarm, the failure indicator of the inverter gets lit	变频器故障 The inverter fails.	按照显示故障代码查询变频器用户手册 Check up the users manual of inverter according to the shown failure code.
水封水渗漏过多 Too much leak of water seal's water	1、填料压盖过松； The packing gland is too loose. 2、填料失去弹性 The packing losses elasticity. 3、填料缠法不对； Wrong way of packing wrapping. 4、轴有弯曲； The shaft gets bent. 5、机械密封损坏。 The mechanical seal is damaged.	1、旋紧压盖或增加填料 Tighten the gland or add packing. 2、更换填料； Replace it. 3、重新缠装填料； Rewrap it. 4、校直或更换新轴 Make it straight or replace it. 5、更换机械密封。 Replace it.
轴承发热 Bearing gets heated	1、轴承损坏或松动 The bearing gets damaged or loosed. 2、轴承安装不正确 Incorrect bearing installation. 3、轴承润滑不良或油质不符； Bad bearing lubrication or improper oil quality. 4、轴弯曲或联轴器不同心； The shaft gets bent or the clutch is eccentric. 5、叶轮失去平衡。 The impeller is unbalanced.	1、更换或调整轴承； Replace or adjust it. 2、重新安装调整间隙； Remount it and adjust the space. 3、清洗轴承重新加油； Clean it and lubricate it again. 4、调直泵轴或联轴器重新找正 Make the shaft straight or correct the clutch. 5、清洗叶轮平衡孔杂物。 Clear the impurities up in the balancing hole.
水泵不能休眠 The pump is unable to get dormant	1、管网泄漏； The pipe-net leaks. 2、系统压力设定值过高； Too high pressure set value of the system. 3、水泵空转。 The pump works idly.	1、检查并消除漏点； Check and eliminate the leaking point. 2、重新调整设定； Reset it. 3、打开水泵进出口阀门或处理水泵故障。 Open both inlet and outlet valves of the pump or settle the failure with the pump.