



PRODUCT CATALOGUE

WATER PRESSURISATION SYSTEM

WATER PRESSURISATION SYSTEM WITH PUMPS

WATER MAKE UP CONTROL

CONTINUOUSLY VACUUM AIR SEPARATOR



WATER PRESSURISATION SYSTEM

Water pressurisation system provide a stable and precision pressure maintenance for water system which water temperature changes or any other reason to make to system pressure increase/decrease. The heating, cooling, production water system, high rise building... are recommended to use this system to protect the equipment from over pressure, reduce the cost for investment and operation.

Important functions:

- **Water pressure maintenance:** use pump(s), pressure sensor to keep the pressure stable
 - **Continuous, efficiency, cyclonic vacuum air separator:** air is removed in vacuum pressure and all modes of operation.
 - **Water make up:** control the water make up
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Technical data

Applications:

Chilled water system

Heating water system

Production water system

Water make up pressure:

Minimum water pressure is 0.5 bar

Accuracy:

Precision pressure maintenance $\pm 0,2$ bar

Material:

Metal components: carbon steel, cast iron

Working Temperature:

Maximum temperature: 90°C

Minimum temperature: 0°C

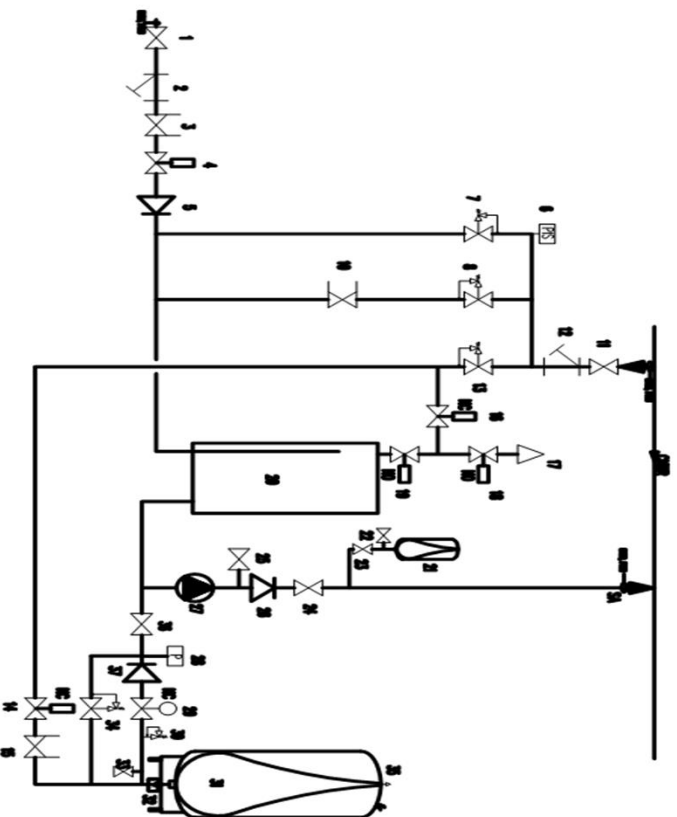
Supply voltage:

Main voltage: 220V ($\pm 10\%$) @ 50Hz



PRESSURIZATION UNIT FOR HIGH PRESSURE

SYSTEM DIAGRAM

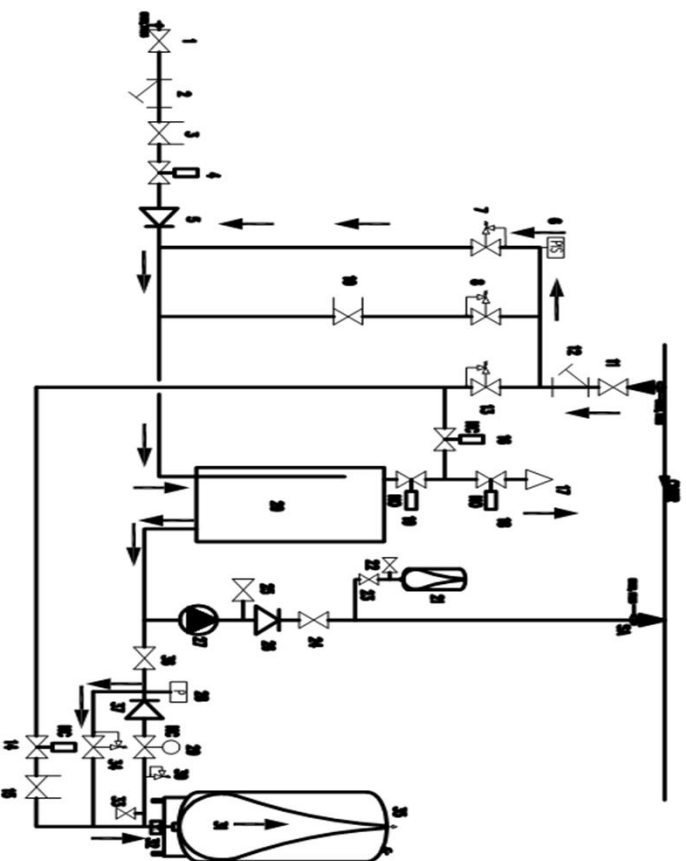


- 1, 11, 22, 23, 24, 25, 33, 36: Isolation valve/ Van cách ly
- 2, 12: Y strainer/ Lọc Y
- 3, 10, 15: Balancing valve/ Van cân bằng
- 4, 14, 16, 18, 19: On/off control valve/ Van điều khiển On/off
- 5, 26, 37: Check valve/ Van 1 chiều
- 6: Pressure sensor/ Cảm biến áp suất
- 7, 34: Pressure relief valve/ Van xả áp
- 8, 13: Pressure reducing valve/ Van giảm áp
- 17: Automatic air vent/ Van xả khí tự động
- 21: Expansion tank/ Bình giãn nở
- 27: Pump/ Bơm
- 28: Pressure gauge/ Đồng hồ áp suất
- 29: Modulating control valve/ Van điều khiển modulating
- 30: Safety valve/ Van an toàn
- 31: Main tank/ Bình chính
- 32: Content sensor/ Cảm biến cân nặng bình
- 35: Manual Air vent/ Van xả khí tay
- NC: Normal close/ Thường đóng
- NO: Normal Open/ Thường mở
- 20: Vacuum air separator/ Bình xả khí chân không



PRESSURIZATION UNIT FOR HIGH PRESSURE

HIGH SYSTEM PRESSURE

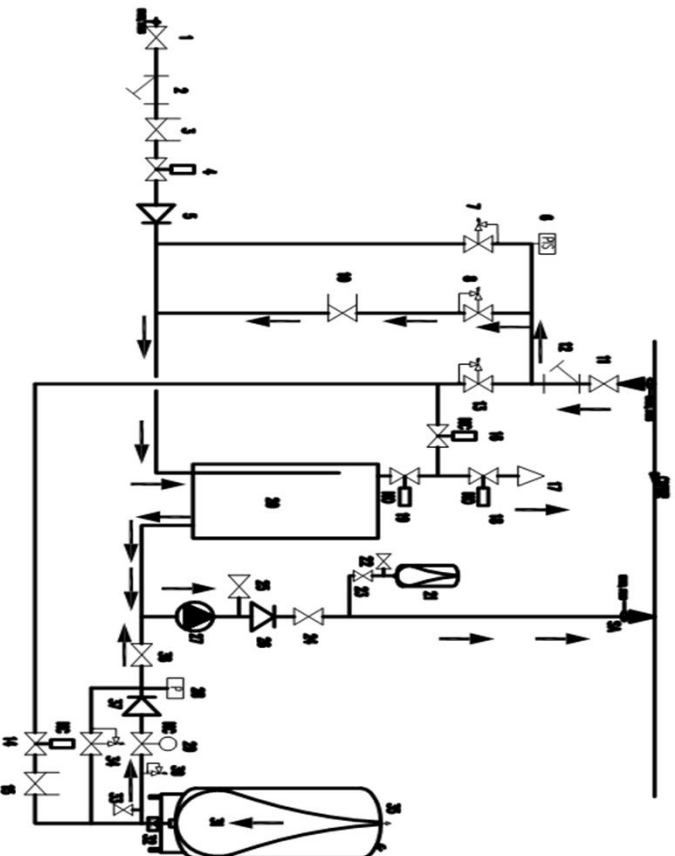


System pressure is higher than target pressure: pressure relief valve (7) (34) open, water from chilled water system goes to main tank (31)



PRESSURIZATION UNIT FOR HIGH PRESSURE

LOW SYSTEM PRESSURE

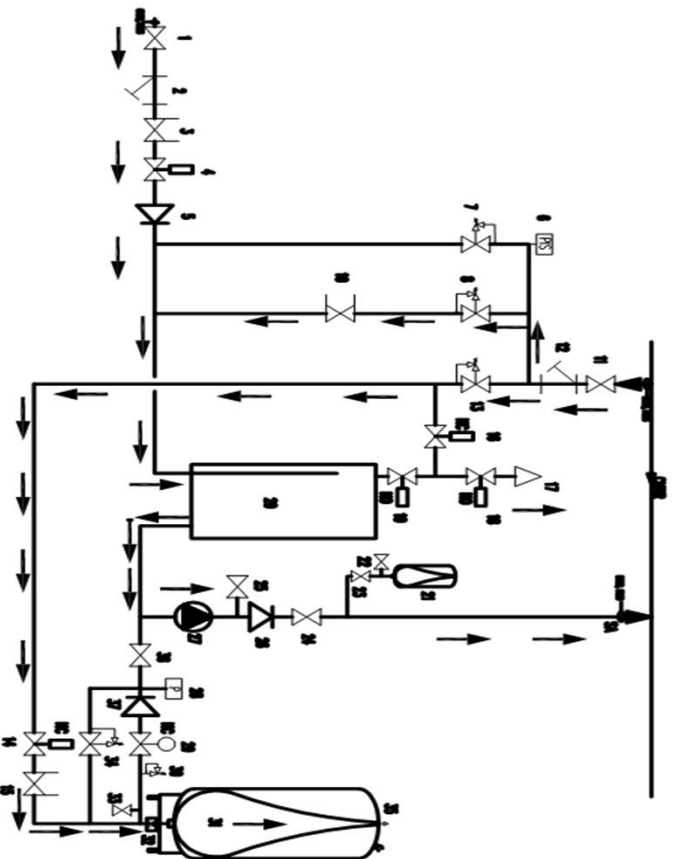


System pressure is lower than target pressure: pump(s) (27) is on, pressure reducing valve (8) opens, control valve (29) open slowly, control valves (16) (18) (19) close/open regularly to move air out to the system. Water from from system to air separator at vacuum pressure, air is removed from water and go to valve (19) (18) (17) to go out. Another flow from main tank (31) to (30) (29) (37) (36) (27)(26) (24) to go to the system to keep pressure of system stably



PRESSURIZATION UNIT FOR HIGH PRESSURE

WATER MAKE UP

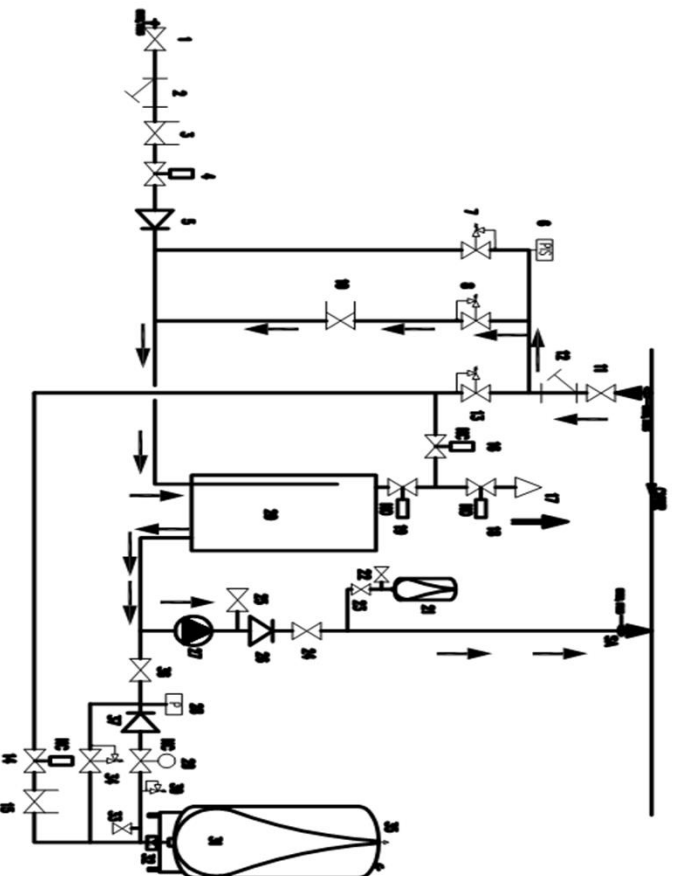


Water content in the main tank (31) is under 25%: pump(s) (27) is on, pressure reducing valve (8) opens, control valves (16) (18) (19) close/open regularly to move air out to the system. Control valve (4) (14) open. Water flow 1 from from system to air separator at vacuum pressure, air is removed from water and go to valve (19) (18) (17) to go out. Water flow 2 from water make up, valve (1) (2) (3) (4) (5), air degassing (20), pump (27), valve (26) (24) to the system. Water flow 3 from the system, valve (11) (12) (13) (14) (15) to the main tank (31)



PRESSURIZATION UNIT FOR HIGH PRESSURE

VACUUM AIR SEPARATOR



Vacuum air separator function: pump(s) (27) is on, pressure reducing valve (8) opens, control valves (16) (18) (19) close/open regularly to move air out to the system. Water from system to air separator at vacuum pressure, air is removed from water and go to valve (19) (18) (17) to go out

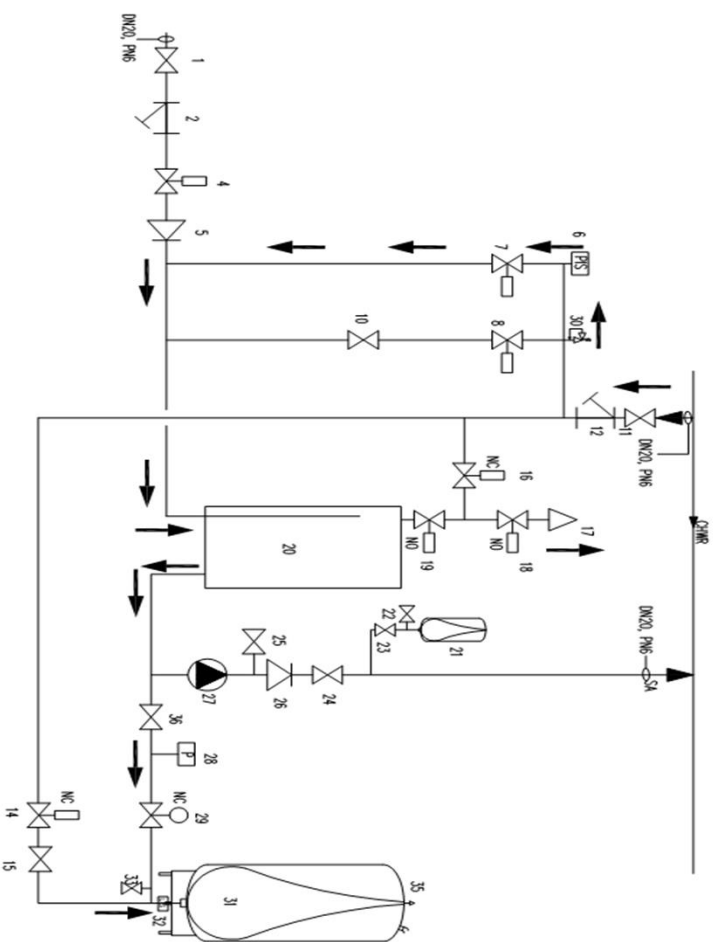


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PRESSURIZATION UNIT FOR LOW PRESSURE

HIGH SYSTEM PRESSURE

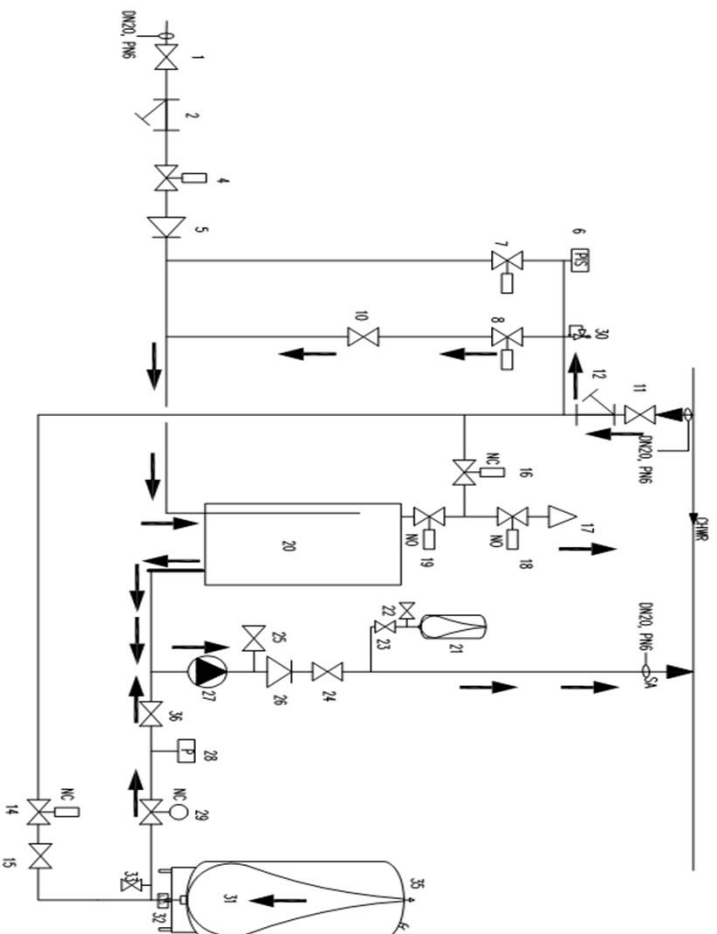


System pressure is higher than target pressure:
motorised on/off control valve (7) opens, water
from chilled water system goes to main tank (31)



PRESSURIZATION UNIT FOR LOW PRESSURE

LOW SYSTEM PRESSURE

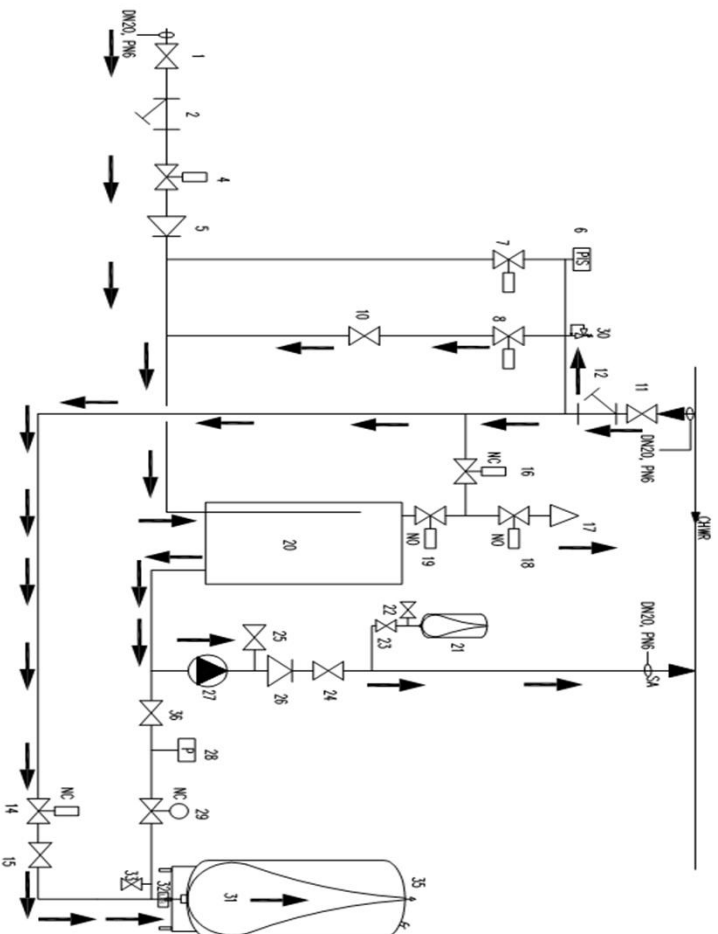


System pressure is lower than target pressure: pump (27) is on, motorised on/off control valve (8) opens, motorised modulating control valve (29) opens slowly, control valves (16) (18) (19) close/open regularly to move air out to the system. Water from from system to air separator at vacuum pressure, air is removed from water and goes to valves (19) (18) (17) to go out. Another flow from main tank (31) to (29) (36) (27) (26) (24) to go to the system to keep pressure of system stably



PRESSURIZATION UNIT FOR LOW PRESSURE

WATER MAKE UP



Water content in the main tank (31) is under 25%: pump (27) is on, motorised on/off control valve (8) opens, control valves (16) (18) (19) close/open regularly to move air out to the system. Control valve (4) (14) opens. Water flow 1 from from system to air separator at vacuum pressure, air is removed from water and go to valve (19) (18) (17) to go out. Water flow 2 from water make up, valve (1) (2) (4) (5), air degassing (20), pump (27), valve (26) (24) to the system. Water flow 3 from the system, valve (11) (12) (14) (15) to the main tank (31)



Vacuum air separator function: pump (27) is on, motorised on/off control valve (8) opens, control valves (16) (18) (19) close/open regularly to move air out to the system. Water from from system to air separator at vacuum pressure, air is removed from water and go to valve (19) (18) (17) to go out





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