



2014

90

"

"

"

"

AAA

100

MF

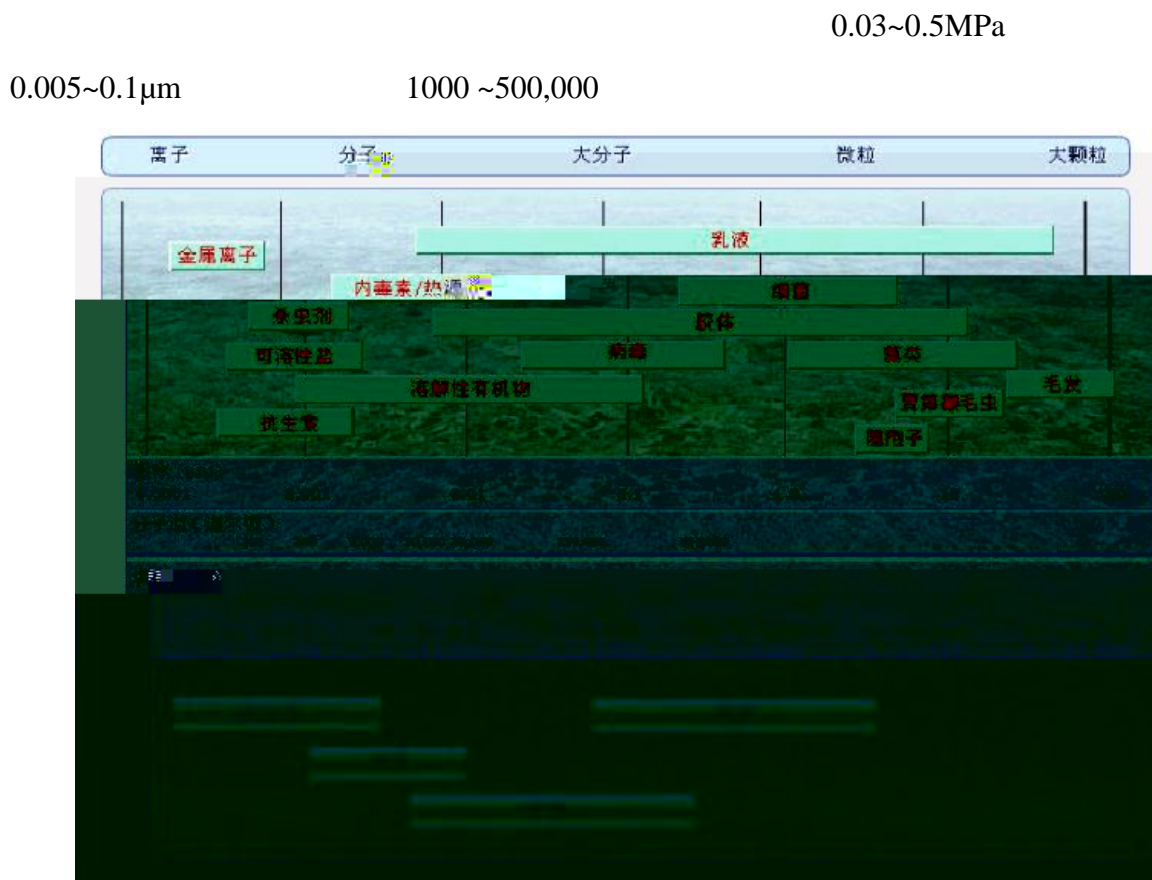
UF

2000

| | | |
|-------|-------|----|
| 2.1 | ..... | 2 |
| 2.2 | ..... | 3 |
| 3.1 | ..... | 5 |
| 3.2 | ..... | 13 |
| 3.2.1 | ..... | 13 |
| 3.2.2 | ..... | 13 |
| 3.3 | ..... | 14 |
| 3.3.1 | ..... | 14 |
| 3.3.2 | ..... | 14 |
| 3.3.3 | ..... | 15 |
| 4.1 | ..... | 16 |
| 4.1.1 | ..... | 16 |
| 4.1.2 | ..... | 16 |
| 4.2 | ..... | 16 |
| 4.2.1 | ..... | 16 |
| 4.2.2 | ..... | 17 |
| 4.3.3 | ..... | 17 |
| 5.1 | ..... | 18 |
| 5.2 | ..... | 20 |
| 5.3 | ..... | 20 |
| 5.3.1 | ..... | 20 |
| 5.3.2 | ..... | 21 |
| 5.3.3 | ..... | 21 |
| 5.4 | ..... | 21 |
| 6.1 | ..... | 24 |
| 6.2 | ..... | 24 |
| 7.1 | ..... | 25 |
| 7.2 | ..... | 25 |
| 7.3 | ..... | 25 |
| 7.4 | ..... | 26 |



| | | |
|------|-------|----|
| 7.5 | ..... | 26 |
| | | .. |
| 1 | ..... | 28 |
| 2 | ..... | 29 |
| 3 ZC | ..... | 30 |
| 4 | ..... | 31 |

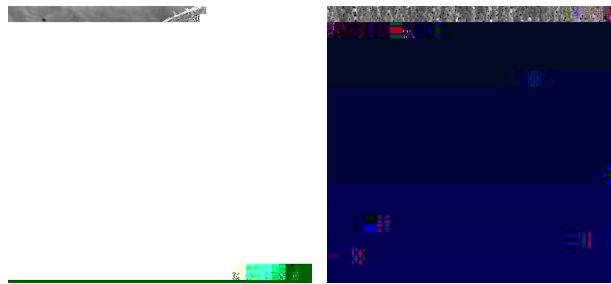


1 PVDF PVDF PVDF PES ZC

2

ZC

PVDF



a.ZC

b.ZC

2-1 ZC

3

ZC

PVDF

<60°

4

ZC

0.02μm

5

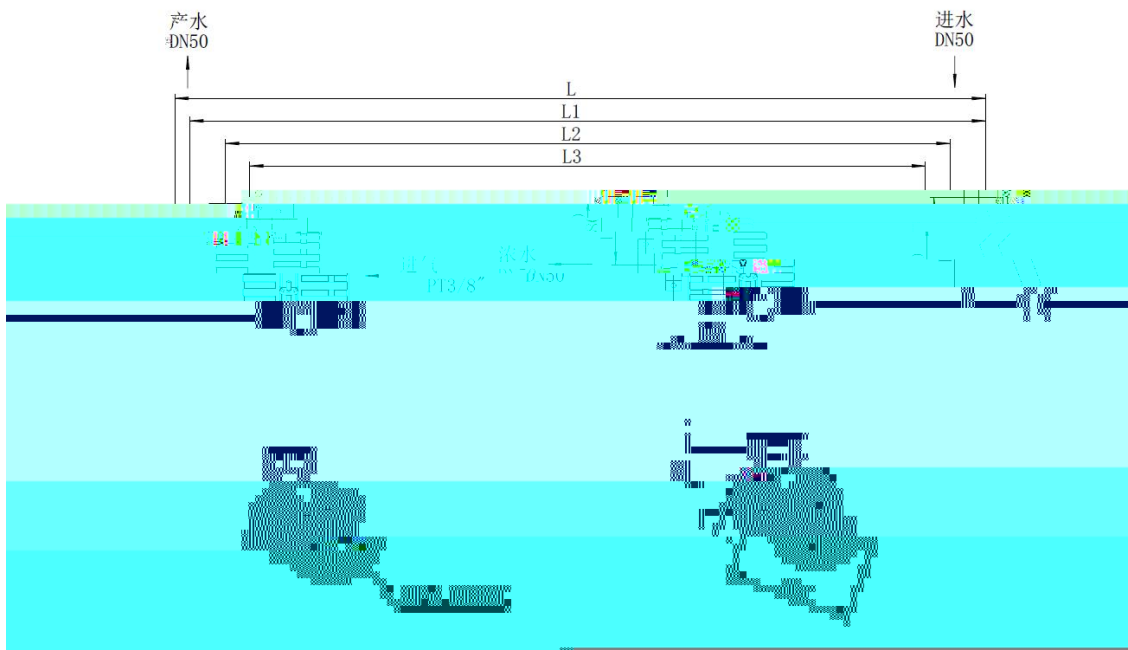
ZC

6

7

2-2 ZC-8

2-1 ZC-8



mm

| | | L | L1 | L2 | L3 | D |
|-----------|----|------|------|------|------|-----|
| ZC-8051-B | mm | 1860 | 1820 | 1630 | 1500 | 225 |
| ZC-8077-B | mm | 2360 | 2320 | 2130 | 2000 | 225 |

2



ZC

| | | | | |
|--|----|-----|----------|----------|
| | ×H | mm | 225×1860 | 225×2360 |
| | | - | PT3/8" | |
| | | - | PVDF | |
| | | - | | |
| | | - | UPVC | |
| | | NTU | 300 | |
| | | MPa | 0.30 | |
| | | | 40 | |
| | pH | - | 2 12 | |
| | | - | | |

UF

UF

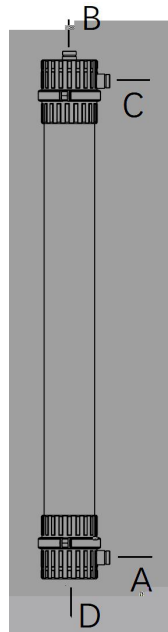
60%

3-1 A B C D

3-1

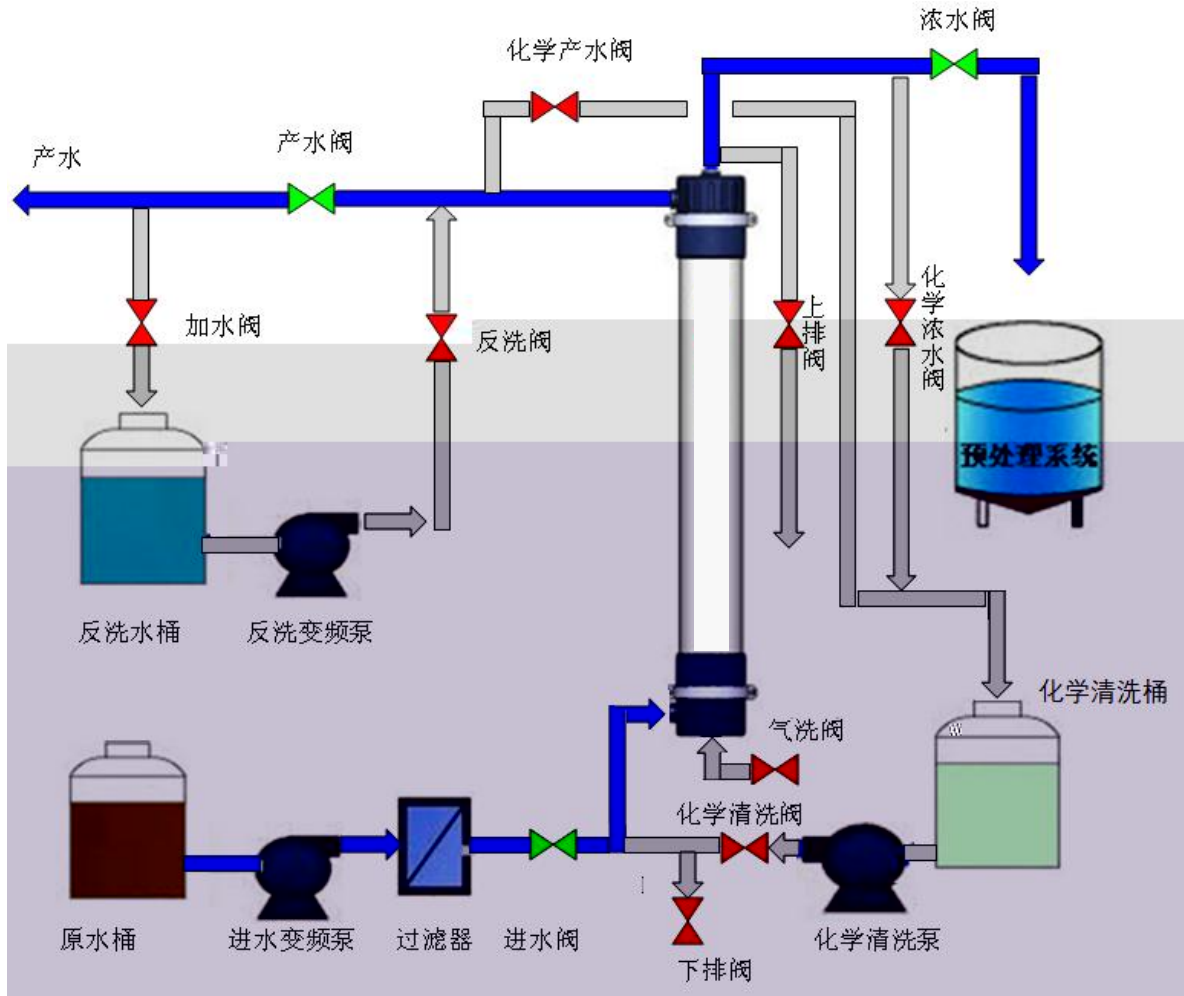
| | | | |
|---|--|-------|--|
| | | | |
| 1 | | A B C | |
| 2 | | C B | |
| 3 | | D C B | |
| 4 | | A | |
| 5 | | A B | |
| 6 | | A B | |
| | | A C | |

A D



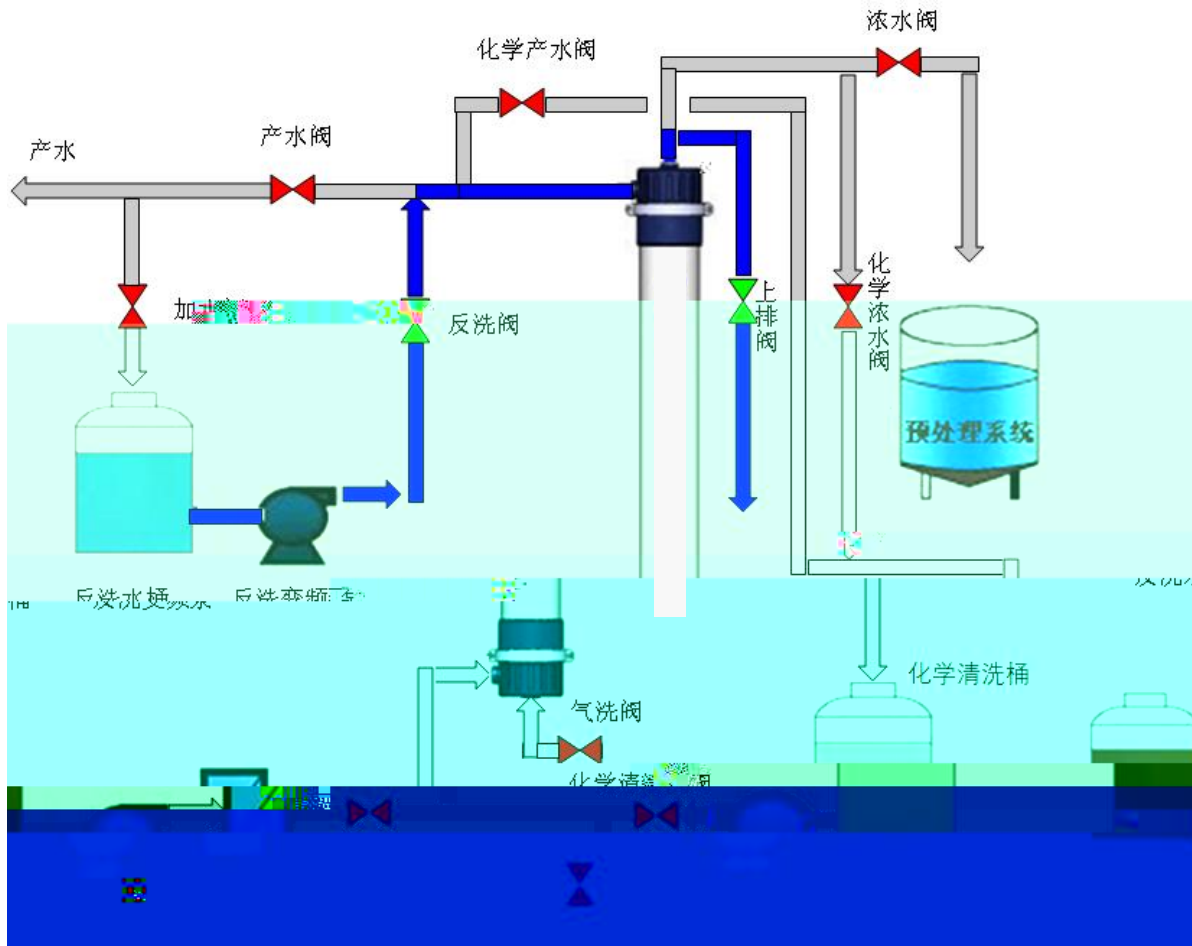
3-1

60min



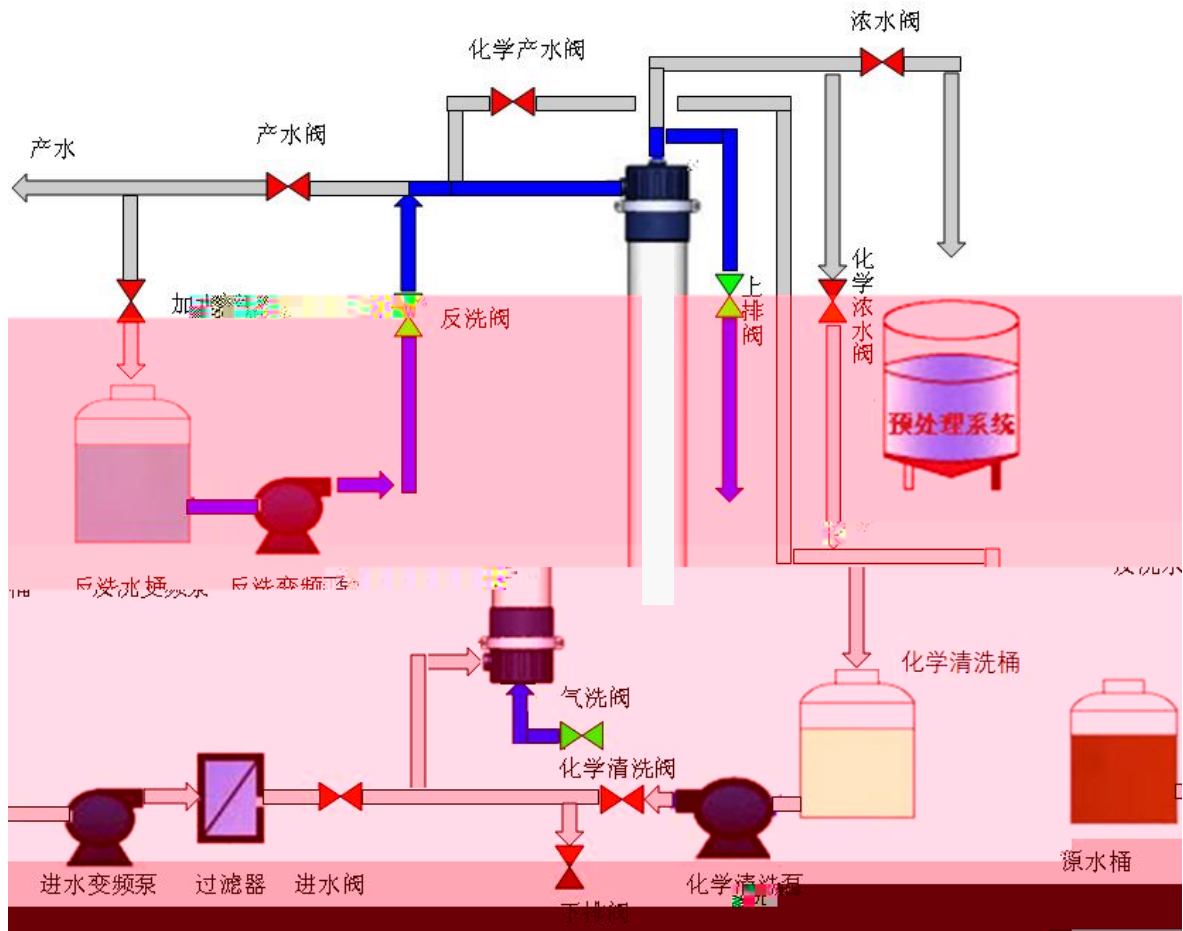
3-2

20 60s

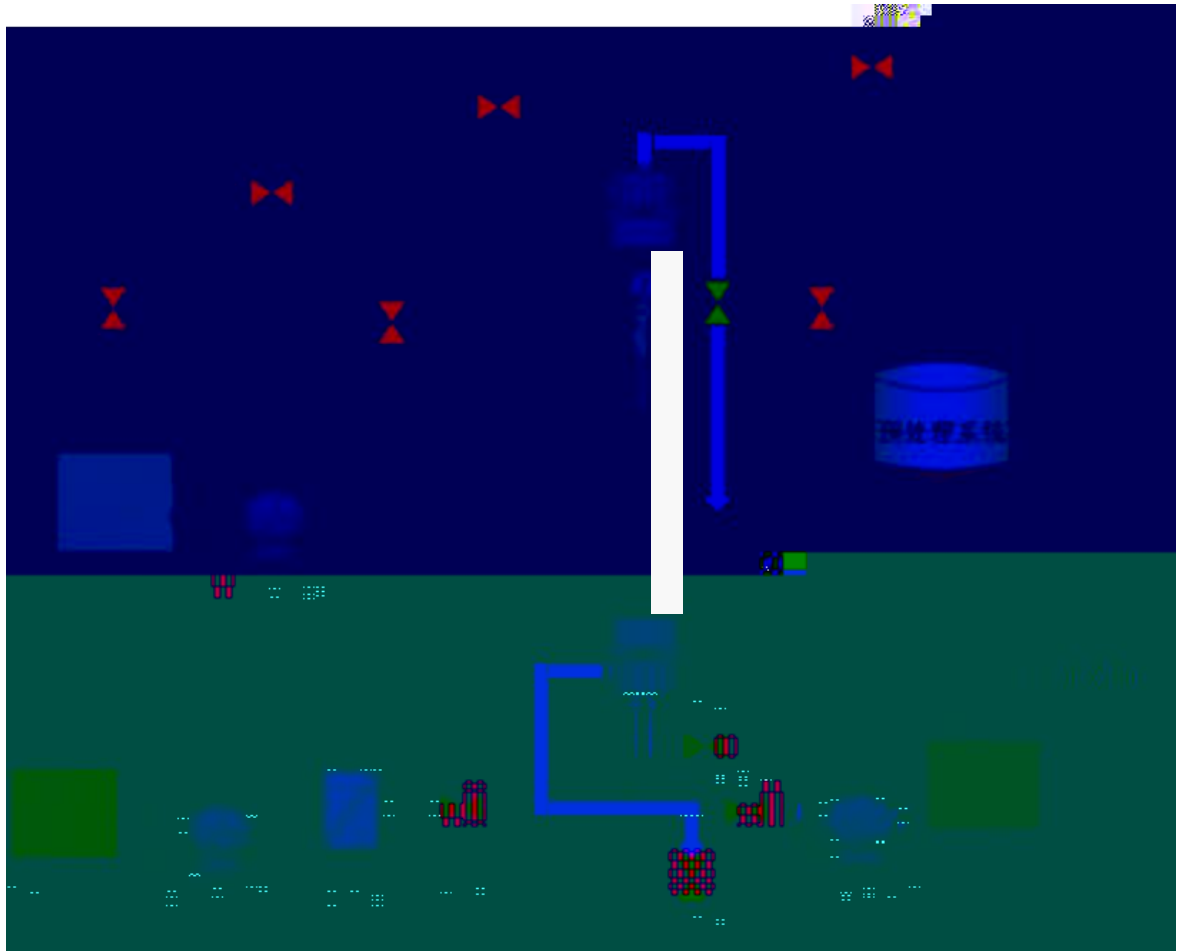


3-3

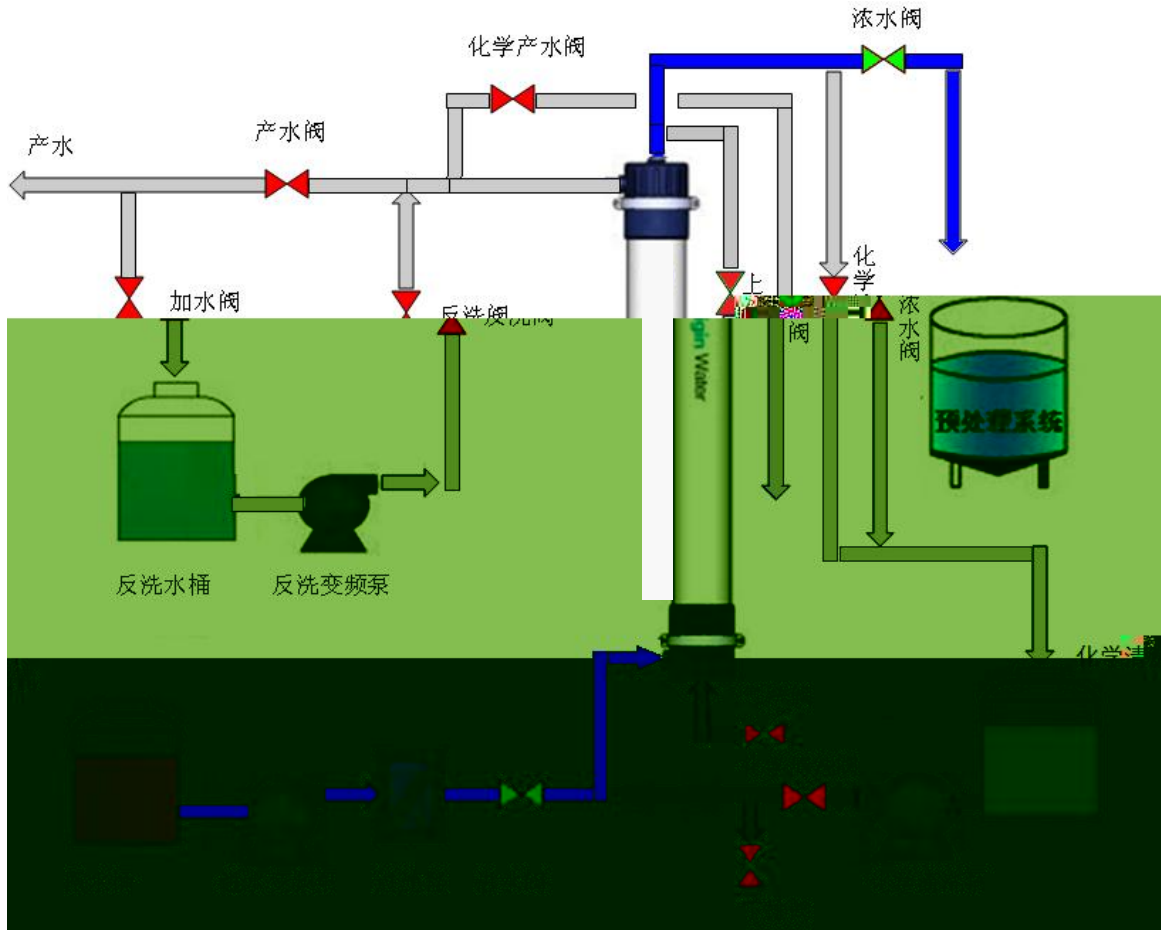
20 60s



3.4 -

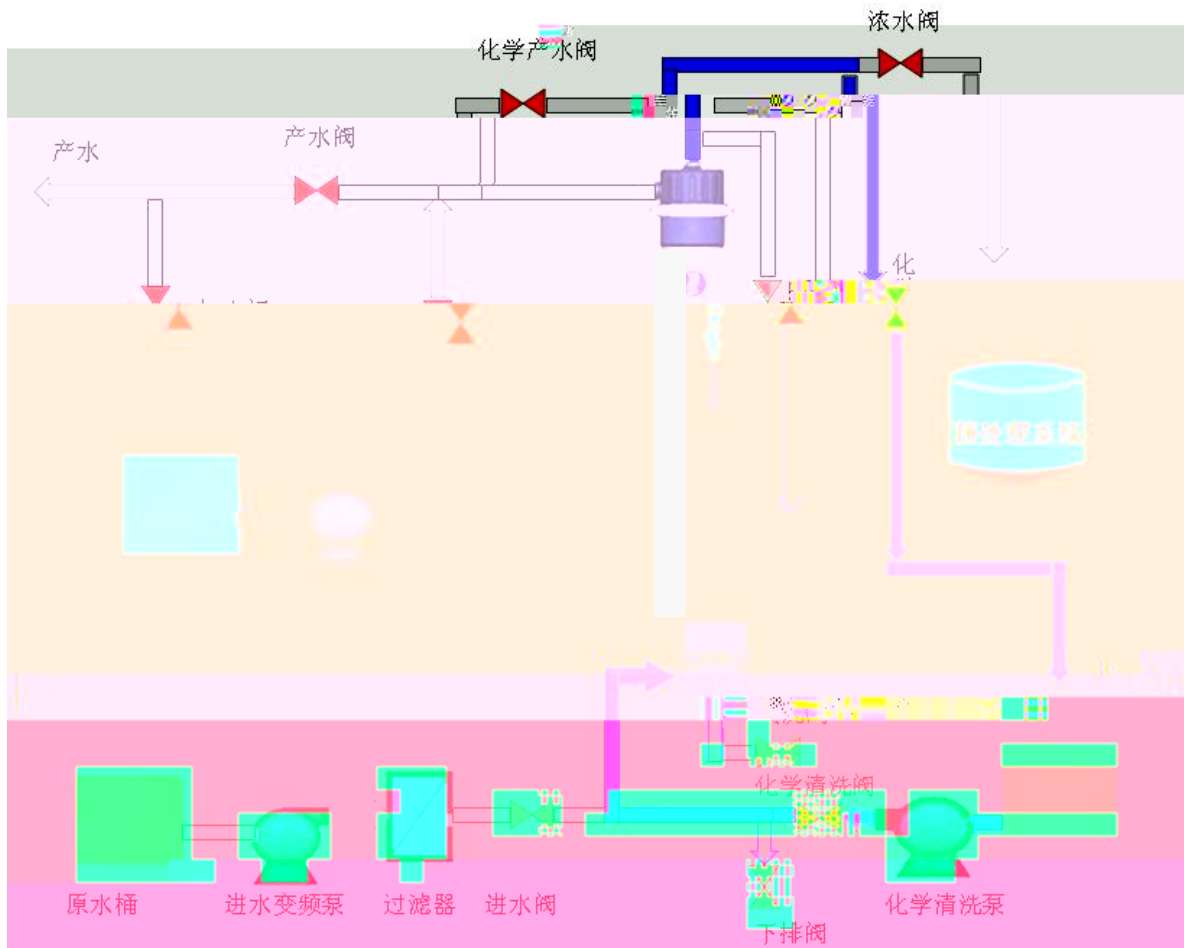


3-5



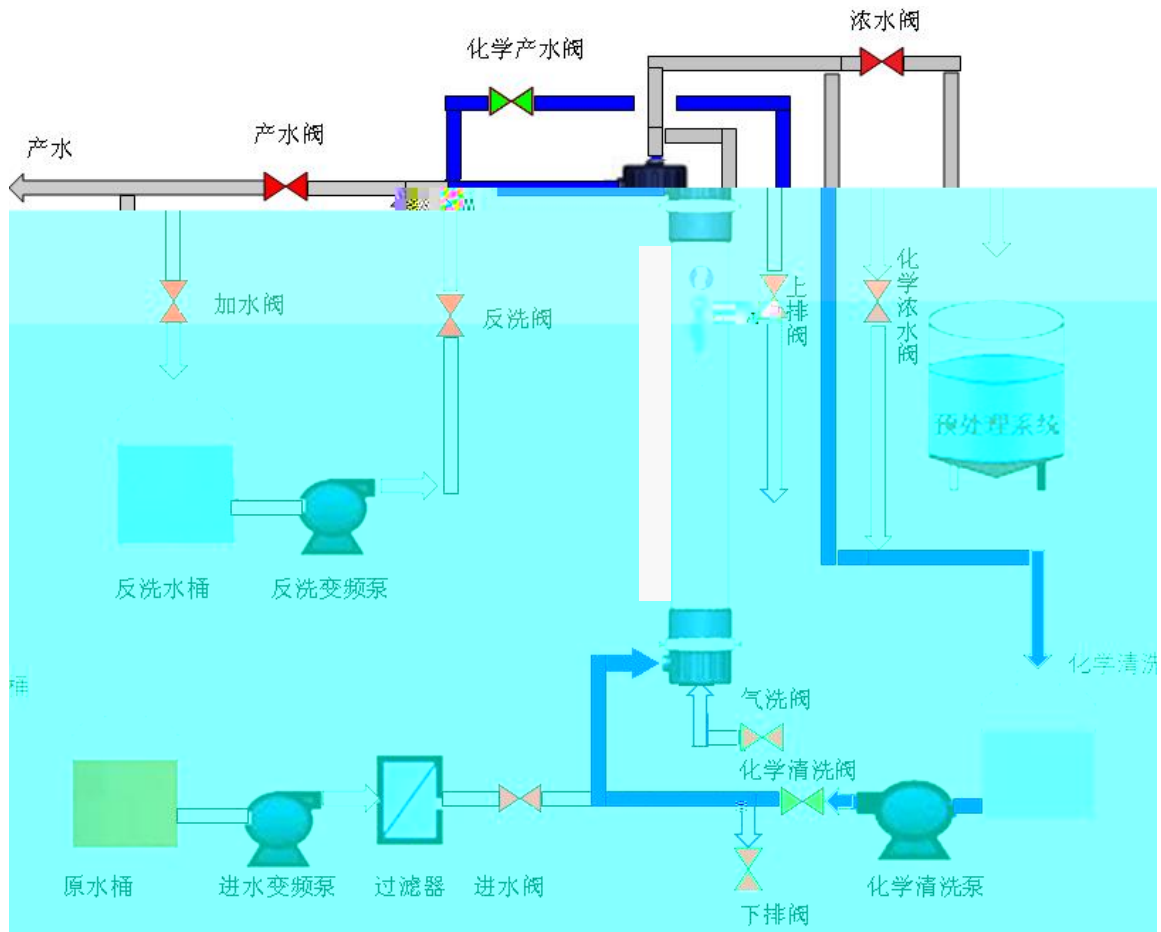
3.6

30 60min



3-7

30 60min



3-8

| | | | | | | | | | | | | | | |
|---|------|---------|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | | |
| 1 | 28.5 | 58.5min | | | | | | | | | | | | |
| 2 | | 0.5min | | | | | | | | | | | | |
| 3 | | 0.5min | | | | | | | | | | | | |



ZC

| | | | | | | | | | | | | | | |
|---|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 4 | 0.5min | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | |

3.2.1

| | |
|----|-------------------|
| | |
| | GB8978-1996 |
| | 500μm TSS 100mg/L |
| | <2 mg/L |
| pH | 2 10 |
| | 40 |
| | <0.2NTU 0.1NTU |

3.2.2

| | | |
|--|------|---------------------------|
| | | 50 100L/m ² ·h |
| | | 30 150kPa |
| | | 200kPa |
| | | 300kPa |
| | | 10% 30% |
| | | 24 48 / |
| | | 150kPa |
| | | 0.5 1.5 |
| | | 8 12Nm ³ /h |
| | | 30 60min |
| | CEBW | |
| | | 50min |
| | CEBW | 1 /1 3 / |
| | CEBW | 1 /1 3 / |
| | CEBW | 1 2m ³ / |
| | | 0.5% 1% 300 500ppm |
| | CIP | |
| | CIP | 90 180min |
| | CIP | 1 /30 90 / |

| | | | |
|----|-----|----|--|
| | 1 | | |
| Ch | 1 | | |
| | 19% | 2% | |
| | 10 | | |
| | 20 | 30 | |

%

3.3.1

1

3 10min

2

#G #G

| | | | | | | | | |
|--------|-------|-------|-------|--------------|------------------|------|-------|------------|
| 1 | | | | 3 | 5 | | | |
| | | | | NaClO | ClO ₂ | | | NaClO/NaOH |
| | | | | EDTA | | | | |
| 2 | | 0.1% | 0.2% | NaOH | | | | 0.05MPa |
| 20 min | 20 | 40min | | | | | | |
| 3 | NaClO | | 300 | 3000ppmNaClO | | 40 | 60min | |
| | | | NaClO | 10% | | | | |
| 4 | | 0.1% | 0.3 | HCl | | 40 | 60min | |
| | | | | HCl | | 30% | | |
| 5 | | HCl | 0.1% | 0.3 | | 0.3% | | 0.05mol/L |
| pH=1 | 2 | | EDTA | | | | | 0.5% |
| 2% | | | | | | | | |
| | | | | | | | 20 | 30 |
| 3.3.3 | | | | | | | | |



4.1.1

1 16mm(M10) 17mm M12 13mm M8

2

3

4.1.2

1

2

3

4

4.2.1

1

2

3

4

1%

NaHSO₃

4.2.2

1

/

2

3

/

4.3.3

1

2

3

4

4

60%

24h

PLC



❖ PLC



| | | | |
|---|----|--------|---------|
| ❖ | | | 0.08MPa |
| ❖ | | | |
| ❖ | ZC | | 0.15MPa |
| ❖ | | | |
| 1 | | | |
| ❖ | | | |
| ❖ | | | |
| ❖ | | | |
| ❖ | | | |
| 2 | | | |
| ❖ | | | |
| 3 | | | |
| ❖ | | | |
| ❖ | | | |
| ❖ | | | |
| ❖ | | 0.2MPa | |
| 4 | | | |
| ❖ | | | |
| ❖ | | 0.1MPa | 0.15MPa |
| ❖ | | | |
| ❖ | | | |
| ❖ | | | |
| ❖ | | | |

❖ 15

❖

❖

❖

1 2 3d 30 60min

2 7d

1% NaHSO₃

pH pH 3

3

4

5.3.1

1

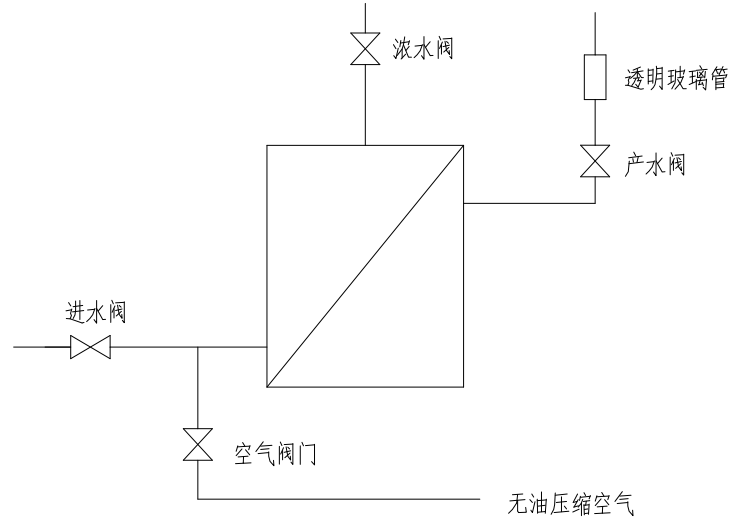
2

3

0

0.1Mpa

0.1MPa



5-1

5.3.2

1

2

0.1MPa

3

3 4min

0.1MPa

10min

4

10min

12kPa

12kPa

5

5.3.3

1

2

3

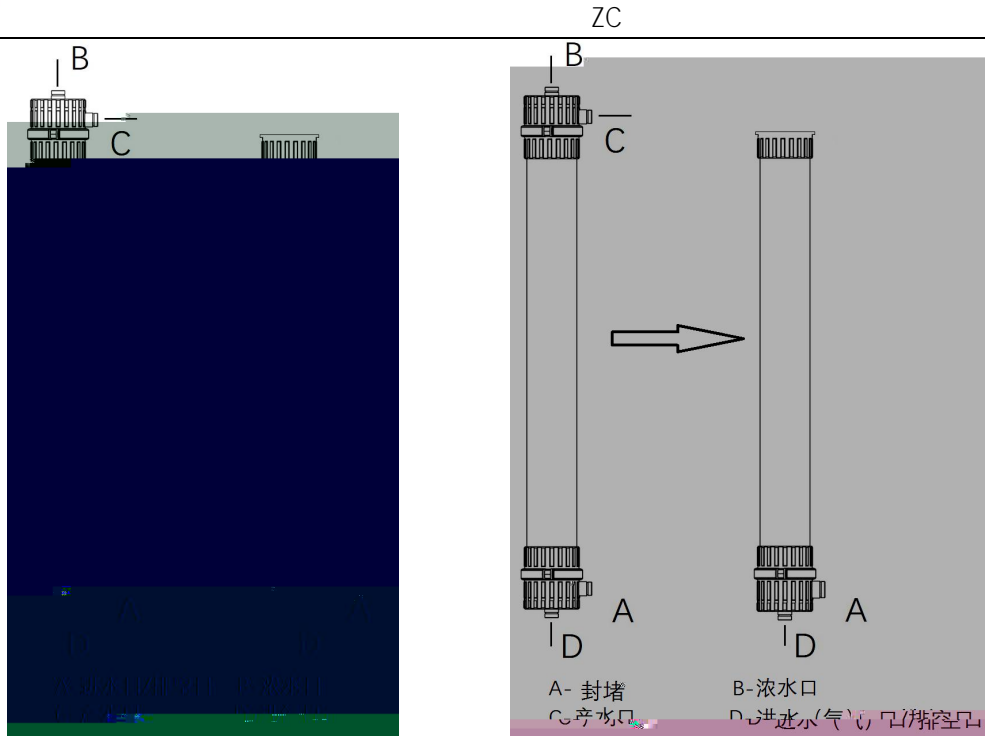
0.05 0.1MPa

4

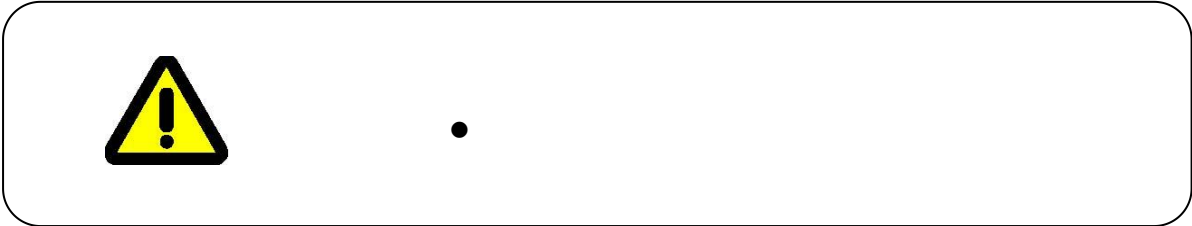
█ █ 0.05 0.1MPa

0.05 0.1MPa

" &



5-2



1 ZC

g

w

12

(

)

:

| | | | |
|---|-----|--------|--------|
| 1 | SDI | 3 | |
| 2 | | 0.1% | |
| 3 | | 0.2NTU | 0.1NTU |

1

2

3

4

35 (95° F) 0 (32° F)

1

)

(

(

)

2

1

2

3

50%

4

5

TMP

6

6

7

8

9



| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | |
|--|-----|--|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | PLC | |





| | | | | | mg/L | % | pH | | min | min | m ³ /h | TMP kPa | TMP kPa | |
|--|--|--|--|--|------|---|----|--|-----|-----|-------------------|---------|---------|--|
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |