



**KOCEN Separator®**

Collaboration between  
Science and Industry



The KOCEN Separators are equipped with belt type centrifuge and it is installed on isolators with rubber cushion. So, those are characterized by low noise level, low maintenance costs and low weight. Also, Those can be increased the rpm better than gear driver type centrifuge. This results in optimum separating efficiency and higher specific capacities.

### **Separators** **MO... D(T)**

The separators are equipped with non-self-cleaning disc-type bowl. They are used for clarification and purification in MDO (less than 0.1% sludge in total), lube oil treatment plants and etc. The solids chamber must be manually emptied at specified intervals.





## TECHNICAL DATA

### MO... D(T) type

|                                                   |     | MO 45D(T)   | MO 55D(T)   | MO 75D(T)    | MO 135D(T)   | MO 200D(T)    | MO 300D(T)    |
|---------------------------------------------------|-----|-------------|-------------|--------------|--------------|---------------|---------------|
| <b>Bowl</b>                                       |     |             |             |              |              |               |               |
| - Speed                                           | rpm | 10000       | 10000       | 12000        | 12000        | 8300          | 6800          |
| - Total volume                                    | ℓ   | 1.3         | 2.0         | 3.0          | 5.0          | 16            | 38            |
| - Sludge holding space                            | ℓ   | 0.9         | 1.5         | 2.0          | 3.2          | 9.5           | 23            |
| <b>Three phase AC motor</b>                       |     |             |             |              |              |               |               |
| - Rating                                          | kw  | 0.75 - 1.5  | 1.5 - 2.2   | 2.2 - 3.7    | 5.5 - 7.5    | 11 - 15       | 18.5 - 30     |
| - Speed at 50Hz                                   | rpm | 3000        | 3000        | 3000         | 3000         | 1500          | 1500          |
| - Speed at 60Hz                                   | rpm | 3600        | 3600        | 3600         | 3600         | 1800          | 1800          |
| - Discharge pressure                              | bar | 0.5         | 0.5         | 1.0          | 1 - 2        | 2             | 2             |
| - Total weight<br>(separator with bowl and motor) | kg  | 60          | 65          | 180          | 290          | 950           | 1500          |
| - Bowl weight                                     | kg  | 7           | 12          | 37           | 66           | 180           | 350           |
| - Dimensions                                      | mm  | 500x280x570 | 500x280x570 | 750x540x1000 | 900x590x1100 | 1200x760x1390 | 1500x900x1600 |



### **Separators**

#### **SO... D(T)**

The Separators are equipped with a self-cleaning disc-type bowl. They are used for clarification and purification in fuel oil (fuel oil up to a density of 0.991g/ml), lube oil treatment plants and etc.

### **Separators**

#### **SO... WS(L)**

The separators are equipped with a self-cleaning disc-type bowl, They are used for clarification and purification in fuel oil (up to a density of 1,01g/ml) and lube oil treatment plants.

Those are consist of the water checking system(W), the sludge checking system(S) and the sludge checking system for lube oil treatment(L).



## TECHNICAL DATA

SO... D(T) type

SO... WS(L) type

|                                                   |     | SO 45D(T)   | SO 75D(T)<br>SO 75WS(L) | SO 135D(T)<br>SO 135WS(L) | SO 150D(T)<br>SO 150WS(L) | SO 200D(T)<br>SO 200WS(L) | SO 300D(T)<br>SO 300WS(L) |
|---------------------------------------------------|-----|-------------|-------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <b>Bowl</b>                                       |     |             |                         |                           |                           |                           |                           |
| - Speed                                           | rpm | 10000       | 12000                   | 12000                     | 12000                     | 8300                      | 6800                      |
| - Total volume                                    | ℓ   | 1.0         | 1.6                     | 2.6                       | 3.5                       | 10.5                      | 24                        |
| - Sludge holding space                            | ℓ   | 0.3         | 0.8                     | 1.2                       | 1.6                       | 4                         | 11                        |
| <b>Three phase AC motor</b>                       |     |             |                         |                           |                           |                           |                           |
| - Rating                                          | kw  | 1.5 - 2.2   | 3.7 - 5.5               | 5.5 - 7.5                 | 5.5 - 7.5                 | 11 - 15                   | 18.5 - 30                 |
| - Speed at 50Hz                                   | rpm | 3000        | 3000                    | 3000                      | 3000                      | 1500                      | 1500                      |
| - Speed at 60Hz                                   | rpm | 3600        | 3600                    | 3600                      | 3600                      | 1800                      | 1800                      |
| - Discharge pressure                              | bar | 0.5         | 1 - 2                   | 1 - 2                     | 1 - 2                     | 2                         | 2                         |
| - Total weight<br>(separator with bowl and motor) | kg  | 70          | 220                     | 330                       | 330                       | 1100                      | 1600                      |
| - Bowl weight                                     | kg  | 15          | 43                      | 70                        | 72                        | 200                       | 390                       |
| - Dimensions                                      | mm  | 500x420x650 | 750x540x1000            | 900x590x1100              | 900x590x1100              | 1200x760x1390             | 1500x900x1600             |



## Separators

### SW... W(D/T)

The separators are equipped with a self-cleaning disc-type bowl.

This is a reliable centrifugal separator for the highly efficient treatment of large bilge water volumes at sea.

And also, you can use for foods, chemicals, pharmaceuticals, biotechnology and etc.

## TECHNICAL DATA

| SW... W(D/T) type                                 |     | SW 45W(D/T) | SW 150W(D/T) | SW 200W(D/T)  | SW 300W(D/T)  |
|---------------------------------------------------|-----|-------------|--------------|---------------|---------------|
| <b>Bowl</b>                                       |     |             |              |               |               |
| - Speed                                           | rpm | 10000       | 12000        | 8300          | 6800          |
| - Total volume                                    | ℓ   | 1.0         | 3.5          | 10.5          | 24            |
| - Sludge holding space                            | ℓ   | 0.3         | 1.6          | 4             | 11            |
| <b>Three phase AC motor</b>                       |     |             |              |               |               |
| - Rating                                          | kw  | 1.5 - 2.2   | 5.5 - 7.5    | 11 - 15       | 18.5 - 30     |
| - Speed at 50Hz                                   | rpm | 3000        | 3000         | 1500          | 1500          |
| - Speed at 60Hz                                   | rpm | 3600        | 3600         | 1800          | 1800          |
| - Discharge pressure                              | bar | 0.5         | 1 - 2        | 2             | 2             |
| - Total weight<br>(separator with bowl and motor) | kg  | 70          | 330          | 1100          | 1600          |
| - Bowl weight                                     | kg  | 15          | 72           | 200           | 390           |
| - Dimensions                                      | mm  | 500x420x650 | 900x590x1100 | 1200x760x1390 | 1500x900x1600 |

## Separator

### SS 150T

The separator is equipped with a self-cleaning disc-type bowl.

This can be separated from fuel oil and lube oil sludge tank due to saving the energy.

## TECHNICAL DATA

### SS... (D/T) type

|                                                   |     | SS 150T      |
|---------------------------------------------------|-----|--------------|
| <b>Bowl</b>                                       |     |              |
| - Speed                                           | rpm | 12000        |
| - Total volume                                    | ℓ   | 3.5          |
| - Sludge holding space                            | ℓ   | 1.6          |
| <b>Three phase AC motor</b>                       |     |              |
| - Rating                                          | kw  | 5.5 - 7.5    |
| - Speed at 50Hz                                   | rpm | 3000         |
| - Speed at 60Hz                                   | rpm | 3600         |
| - Discharge pressure                              | bar | 1 - 2        |
| - Total weight<br>(separator with bowl and motor) | kg  | 330          |
| - Bowl weight                                     | kg  | 72           |
| - Dimensions                                      | mm  | 900x590x1100 |



## Separators

### MW... (ND/NT)

The separators are equipped with nozzle discharge. Those are continuously operating separators that clarify liquids while concentrating solids. The concentrated solids are discharged continuously through nozzles. And also, Nozzle separators are available in clarifier and purifier design.

## TECHNICAL DATA

### MW... (ND/NT) type

|                                                   |     | MW 135ND     | MW 200ND      | MW 300ND      |
|---------------------------------------------------|-----|--------------|---------------|---------------|
| <b>Bowl</b>                                       |     |              |               |               |
| - Speed                                           | rpm | 12000        | 8300          | 6800          |
| - Total volume                                    | ℓ   | 4            | 10            | 26            |
| - Sludge holding space                            | ℓ   | 2.5          | 4.5           | 16            |
| <b>Three phase AC motor</b>                       |     |              |               |               |
| - Rating                                          | kw  | 5.5 - 7.5    | 11 - 15       | 18.5 - 30     |
| - Speed at 50Hz                                   | rpm | 3000         | 1500          | 1500          |
| - Speed at 60Hz                                   | rpm | 3600         | 1800          | 1800          |
| - Discharge pressure                              | bar | 1 – 2        | 2             | 2             |
| - Total weight<br>(separator with bowl and motor) | kg  | 300          | 1000          | 1500          |
| - Bowl weight                                     | kg  | 67           | 180           | 350           |
| - Dimensions                                      | mm  | 900x590x1100 | 1200x760x1390 | 1500x900x1600 |





## ■ OPTIMUM CAPACITY TABLE

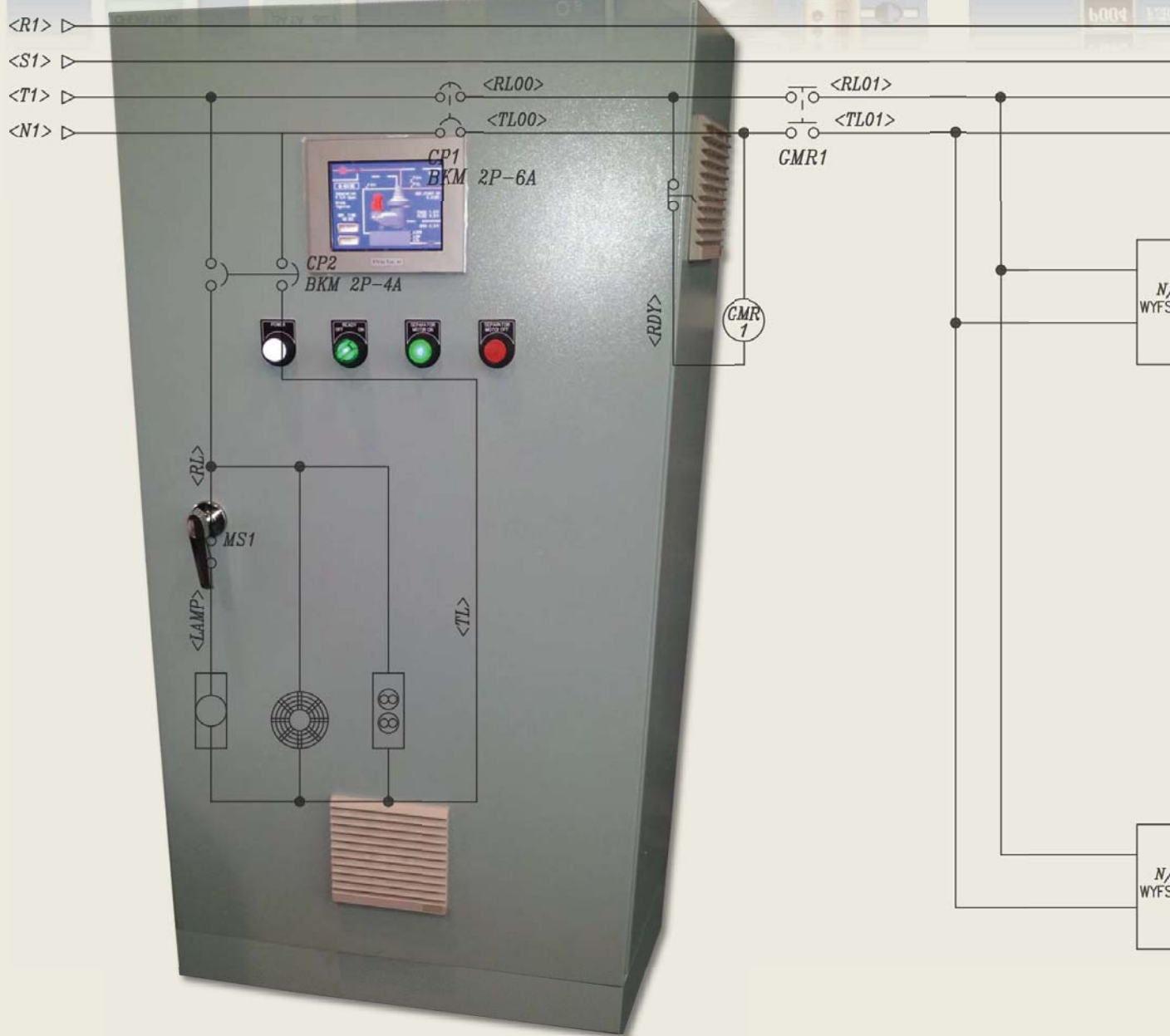
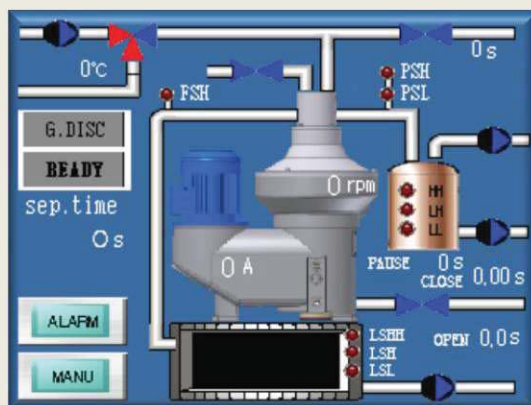
### ■ FUEL OIL

| Separator Type   | Actual Capacity (ℓ/h)       |       |                             |       |       |       |       |       |       |       |
|------------------|-----------------------------|-------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
|                  | GO/MGO                      | MDO   | Heavy Fuel Oil              |       |       |       |       |       |       |       |
|                  | mm <sup>2</sup> /s at 40 °C |       | mm <sup>2</sup> /s at 50 °C |       |       |       |       |       |       |       |
| Viscosity        | ≤ 7.5                       | ≤ 15  | 40                          | 80    | 180   | 380   | 420   | 500   | 600   | 700   |
| Separating Temp. | 20 °C                       | 40 °C | 75 °C                       | 98 °C |       |       |       |       |       |       |
| MO 45            | 1100                        | 900   | -                           | -     | -     | -     | -     | -     | -     | -     |
| MO 55            | 1700                        | 1350  | -                           | -     | -     | -     | -     | -     | -     | -     |
| MO 75            | 3800                        | 3050  | 3000                        | 2800  | -     | -     | -     | -     | -     | -     |
| MO 135           | 9700                        | 7400  | 7200                        | 7000  | 6000  | 3500  | -     | -     | -     | -     |
| MO 200           | 26000                       | 20000 | 19000                       | 18500 | 16000 | 9500  | -     | -     | -     | -     |
| MO 300           | 52500                       | 40500 | 39000                       | 38000 | 32000 | 20500 | -     | -     | -     | -     |
| SO 45            | 1150                        | 900   | -                           | -     | -     | -     | -     | -     | -     | -     |
| SO 75 / 55       | 1560                        | 1210  | 1200                        | 1180  | 1000  | 650   | 550   | 450   | 400   | 350   |
| SO 75 / 65       | 2060                        | 1580  | 1580                        | 1580  | 1320  | 850   | 740   | 580   | 530   | 470   |
| SO 75 / 75       | 3800                        | 3050  | 3000                        | 2900  | 2500  | 1600  | 1380  | 1100  | 950   | 900   |
| SO 135 / 95      | 5300                        | 4100  | 4100                        | 4000  | 3500  | 2150  | 1900  | 1450  | 1300  | 1250  |
| SO 135 / 120     | 7850                        | 6000  | 6000                        | 5900  | 5050  | 3150  | 2800  | 2150  | 1950  | 1850  |
| SO 135 / 135     | 9700                        | 7400  | 7400                        | 7300  | 6200  | 3900  | 3500  | 2800  | 2400  | 2200  |
| SO 150           | 12900                       | 10000 | 9550                        | 9500  | 8300  | 5200  | 4600  | 3500  | 3100  | 3000  |
| SO 200 / 160     | 16650                       | 12800 | 12800                       | 12600 | 10750 | 6650  | 5880  | 4600  | 4100  | 3850  |
| SO 200 / 180     | 21100                       | 16300 | 16300                       | 16100 | 13600 | 8400  | 7500  | 5800  | 5200  | 4900  |
| SO 200 / 200     | 25900                       | 20100 | 19500                       | 19000 | 16700 | 10500 | 9100  | 7100  | 6300  | 6000  |
| SO 300 / 240     | 31400                       | 24200 | 24200                       | 24000 | 20300 | 14600 | 13100 | 10500 | 9700  | 9300  |
| SO 300 / 260     | 37500                       | 28800 | 28800                       | 28600 | 24200 | 16900 | 15200 | 12500 | 11200 | 10600 |
| SO 300 / 280     | 43900                       | 33800 | 33800                       | 33700 | 28400 | 19600 | 17500 | 14200 | 12800 | 12000 |
| SO 300 / 300     | 52500                       | 40500 | 39500                       | 39000 | 33800 | 22800 | 20500 | 16500 | 14900 | 13600 |



## ■ LUBRICATING OIL

| Separator Type   | Actual Capacity (ℓ/h)           |                                 |                                |
|------------------|---------------------------------|---------------------------------|--------------------------------|
|                  | Cross head                      | Trunk piston                    | Steam and Gas turbine          |
|                  | Detergent Oil                   |                                 | Turbine Oil                    |
| Viscosity        | 100 mm <sup>2</sup> /s at 40 °C | 150 mm <sup>2</sup> /s at 40 °C | 50 mm <sup>2</sup> /s at 40 °C |
| Separating Temp. | 90 °C                           | 95 °C                           | 75 °C                          |
| MO 45            | 450                             | 350                             | 1000                           |
| MO 55            | 750                             | 550                             | 1500                           |
| MO 75            | 1800                            | 1500                            | 3200                           |
| MO 135           | 4500                            | 3500                            | 8100                           |
| MO 200           | 12000                           | 9300                            | 21500                          |
| MO 300           | 25000                           | 19500                           | 43500                          |
| SO 45            | 550                             | 430                             | 1000                           |
| SO 75 / 55       | 710                             | 560                             | 1300                           |
| SO 75 / 65       | 950                             | 750                             | 1700                           |
| SO 75 / 75       | 1800                            | 1500                            | 3200                           |
| SO 135 / 95      | 2400                            | 1900                            | 4350                           |
| SO 135 / 120     | 3600                            | 2780                            | 6480                           |
| SO 135 / 135     | 4500                            | 3520                            | 8150                           |
| SO 150           | 6100                            | 4500                            | 11000                          |
| SO 200 / 160     | 7600                            | 5800                            | 13800                          |
| SO 200 / 180     | 9700                            | 7400                            | 17500                          |
| SO 200 / 200     | 12000                           | 9100                            | 21500                          |
| SO 300 / 240     | 14500                           | 12100                           | 26100                          |
| SO 300 / 260     | 17300                           | 14200                           | 31100                          |
| SO 300 / 280     | 20300                           | 16500                           | 36500                          |
| SO 300 / 300     | 24500                           | 19600                           | 43300                          |



# CONTROL UNIT

The illuminated graphic display provides information operating, fault conditions of the separator and displays corresponding process data, depending on programming.

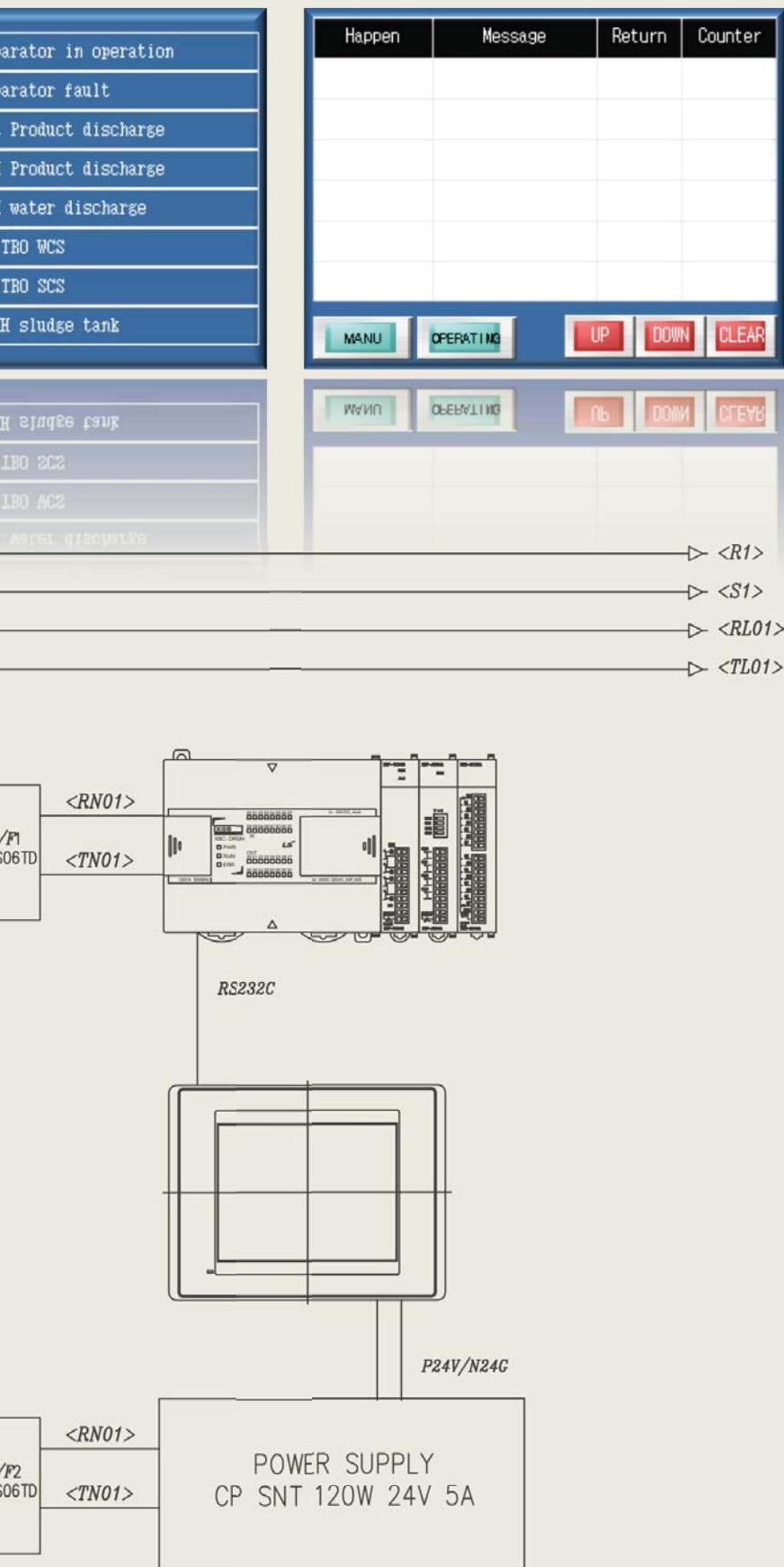
This PLC control panel is simplification and minimization of system space with light weight.

## Program control

- Controlled total ejections at predetermined interval.
- Displacement of the oil with water prior to total ejections.
- Clarifier operating mode
- Series operation mode
- Water discharge by water content checking system.
- Ejections by sludge space checking system.
- Sludge tank level controls.
- Feed temperature regulator.
- CIP function control mode.

## Monitoring

- The clean oil discharge back pressure High and Low.
- The water discharge.
- The temperature of the dirty feed line.
- The function of the ejection system.
- Maintenance intervals.
- The water content in the feed.
- The sludge space capacity in bowl.



## Special fields of application

### ■ Marine



### ■ Industry



### ■ Naval vessel



### ■ Food



### ■ Energy



### ■ Dairy Technology



### ■ Oilfield



### ■ Chemicals Pharmaceuticals Biotechnology



**D.D.E**  
korea Co., Ltd

## DDE Korea Co., Ltd.

46-14, Ogeumnaksan-gil, Gangdong-myeon, Gyeongju-si,  
Gyeongsangbuk-do, Korea

TEL : +82-54-762-3305, FAX : +82-54-763-0704

E-mail : [tskim@dongduck.com](mailto:tskim@dongduck.com)

<https://ddekorea.com>