

# Application report

## Phase Separation Sea Water / Fish Water (red)

In all seas of the world, large amounts of fish are being caught and processed to food fish or fish meal and fish oil.

Along the Pacific coast of Latin America, between Ecuador and the Southern tip of Chile, about 60 % of worldwide fishing is carried out. Peru alone produces 30 – 40 % of the global production of fish meal and fish oil.



**Chimbote Bay, Peru**

Along those roughly 6'000 km, there is Chimbote Bay approximately 400 km north of Lima. More than 70 % of Peru's fishing industry (fishing, processing and sale) is located in Chimbote.

### Benefits

A rapid differentiation of the phase «dirty water», also called blood water, from «clean water (transparent)» allows a reduced effort in water treatment. It eliminates the perpetual changing of the dosing of chemicals. Fewer chemicals are needed, less pump output and equipment use (water with a high salt content!) is necessary. Thus the quality and efficiency of water treatment can be increased.



**PhaseGuard in bypass installation DN100**

### Typical application

At a distance of about 10 km from the bay, a service platform is installed at which the ships unload their catch. This fish is pumped together with sea water (pumping water) from the platform to be processed onshore in pipes of about 16" diameter. Small companies process about 40 t of fish/h and the largest companies process up to 220 t of fish/h. For this, 1 – 1.5 m<sup>3</sup> of water is needed per ton of fish. This water is soiled with fish parts, fish blood, fish bones, fish oil etc. Onshore the fish is first separated from the water and the water is then treated. Installed in a bypass, the PhaseGuard T with Varivent® housing detects the transition of dirty to transparent water.

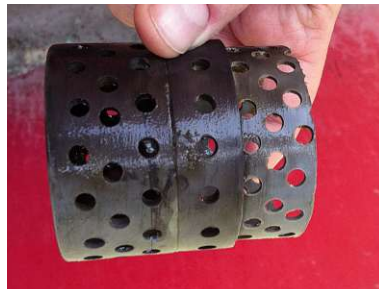
# Application report

## Phase Separation Sea Water / Fish Water [red]

During the dirty water phase, the water contains many impairing contaminations preventing measurements. An additional protection of the optics is needed.



**Soiled protection of optics**



**Cleaned protection of optics**

A lattice was constructed which allows the water to pass through while retaining a large proportion of the solids. Nevertheless, hourly cleaning is still necessary. An automation of this cleaning process is to be desired.

### Products

SIGRIST product and configuration:

- PhaseGuard T, Special version PhaseGuard
- Matching Varivent® housing
- Optionally: SICON control unit

### Parameter adjustments

- Threshold value for preliminary alarm and alarm to be determined with the customer

### Advantages of SIGRIST PhaseGuard

#### Customer benefits

Instrument design

- LED light source, no change necessary
- Sealless, no changing of seal necessary
- Easy connection in Varivent® housing

Communication to SPS

- 4 .. 20 mA connection
- Optional connection of a SICON