

Terra  Marra

INTERNATIONAL



EFFICIENT FILTRATION SYSTEMS

**FACILITY WATER MANAGEMENT COOLING
TOWER SOLUTIONS**

SAFE T GARD

SIDE-STREAM COOLING TOWER FILTRATION

REDUCTION IN ENERGY CONSUMPTION

- AVERAGE OF 10% SAVINGS

REDUCTION IN WATER CONSUMPTION

- LESS THAN 1% WATER WASTE WHICH.
- NO CONSUMABLES OR WASTE MEDIA.

LOWER CHEMICAL USE

- REMOVAL OF SUSPENDED SOLIDS REDUCES THE NEED FOR DISPERSANTS AND BIOCIDES

CONTROL OF BIOLOGICAL GROWTH

- FILTRATION MEDIA IS NON-POROUS AND THE SEDIMENT IS VACUUMED FREQUENTLY BEFORE MAJOR ACCUMULATION. NEW TECHNOLOGY VERSUS OLD 70+ YEAR TECHNOLOGY.

LOWER MAINTENANCE COSTS

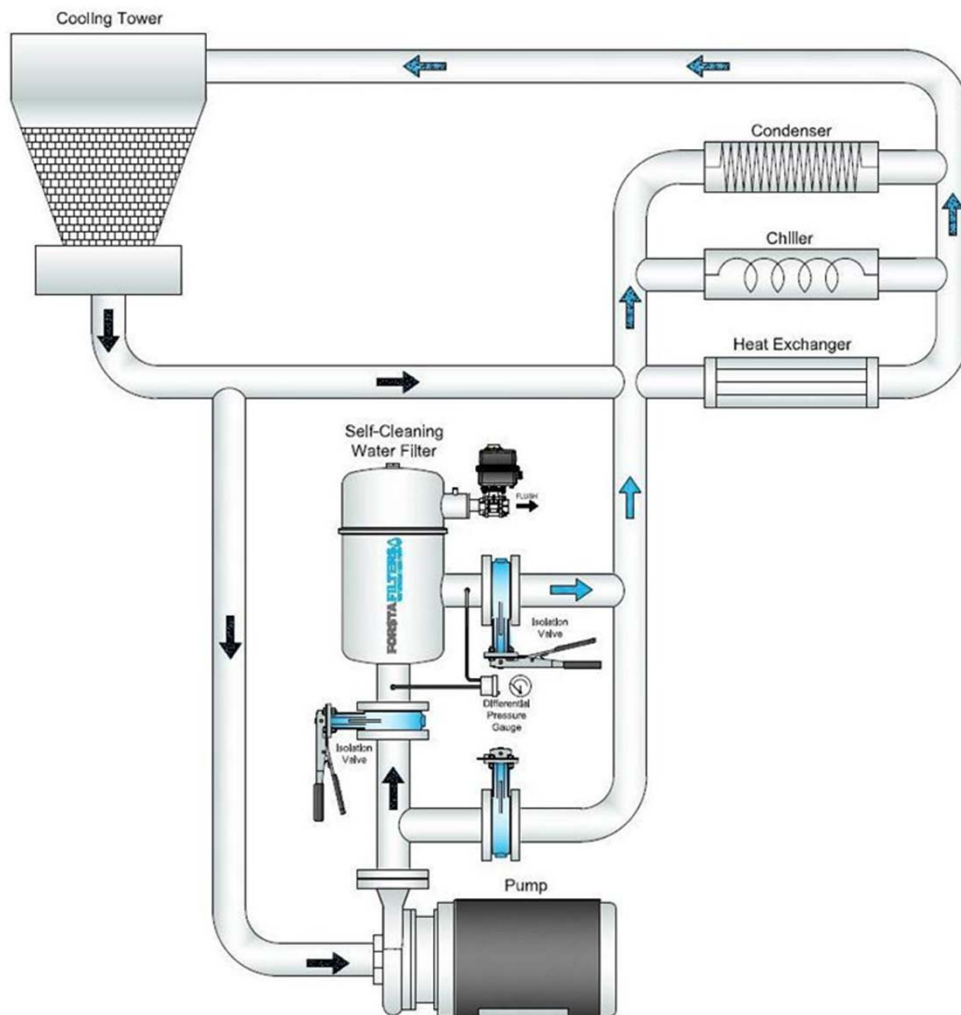
- LESS TIME AND FREQUENCY IN CLEANING BASINS OR SUMPS, DRAINING TOWERS AND MORE TIME IN CONTINUOUS OPERATION. LESS ISSUES WITH HEAT EXCHANGER FOULING AND PRODUCTIVITY.

INTELLIGENT WATER MANAGEMENT

- ABLE TO MONITOR INCOMING WATER VARIANCE WITH RESPECT TO SEDIMENT LOADING AND TRACK HISTORICAL INFORMATION WITH PREVENTIVE MAINTENANCE ALERTS AND REMOTE MONITORING OPTIONS.



COOLING TOWER SIDE-STREAM



ADVANTAGES VERSUS DOING NOTHING

CASE STUDY

- **BACKGROUND:**
 - 400-TON CHILLER, 3,720 HOURS PER YEAR OPERATION
 - LOAD 70% AND EFFICIENCY 65%
 - CYCLES OF CONCENTRATION 3
 - \$1,500 PER YEAR OF WATER TREATMENT CHEMICALS SPENT PER YEAR
 - COOLING TOWER CLEANING: 3 TIMES PER YEAR WITH ESTIMATED COST OF \$4,320
- **INVESTMENT AMOUNT: \$12,000 USD FOR EQUIPMENT.**

- **RESULTS:**
 - 10% REDUCTION IN TOTAL ENERGY COST
 - CYCLES INCREASED FROM 3 TO 4
 - 288,000 GALLONS OF WATER SAVED ANNUALLY
 - WATER TREATMENT CHEMICAL COST REDUCED BY 20%
 - ESTIMATED ON INSPECTION ANNUAL MAINTENANCE AND CLEANING REDUCED BY 2 TIMES
- **TOTAL SAVINGS ACTUAL AND ESTIMATED \$9,000**
- **ROI IN 16 MONTHS**