SPLIT TYPE FULL-AUTOMATIC CIP SYSTEM
分体式全自动CIP系统

SEMI-AUTOMATIC SPLIT TYPE CIP SYSTEM
分体式半自动CIP系统

全自动CIP清洗是指设备（罐体、管道、泵、阀门等）及整个生产线在无需人工拆开的前提下，在闭合的回路中进行循环清洗。

系统控制参数
本系统采用PLC编程控制，带彩色触摸屏操作显示整个生产工艺流程及各项控制参数，清洗液温度，罐内酸碱度，清洗时间，清洗顺序，清洗回流酸碱度均可设定，配备系统故障报警装置。

系统工作原理
A) 清洗液流量自动控制
b) 清洗液温度自动控制
c) 罐内液位自动补偿控制
d) 罐内酸、碱液的浓度自动补偿
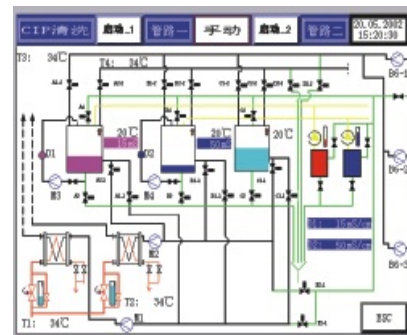e) 酸液、碱液、热水的换相自控操作
F) 系统报警装置

FULL-AUTOMATIC CIP SYSTEM: the cleaning processes are done circularly in the closed circuit on the precondition of not disconnecting all the equipments(tank body, pipelines, pumps and all valves)and the whole processing line manually.

Control parameters
This system adopts PLC control with colored touch screen to display the whole process flow and each controlling parameter. The temperature of the cleaning liquid, PH value in tanks, cleaning time, cleaning sequence, and cleaning refluence PH value can be set. It is equipped with malfunction alarm device.

Working principle
A) Automatic control for the cleaning liquid flow
b) Automatic control for temperature of cleaning liquid
c) Automatic-compensation control for liquid level of inner tank
d) Automatic-compensation for the acid and alkali concentration
e) Automatic phase-change control among acid, alkali and hot water
F) Alarm-device

系统的主要设备包括：
Main equipments of this system includes:

CIP清洗液贮罐(酸罐，碱罐，热水罐，清水罐)；
CIP cleaning liquid storage tanks(include acid tank, alkali tank, hot water tank, clear water tank);

两个浓酸/碱单层贮罐；
Two single-layer storage tanks for thick acid and alkali;

CIP进程泵和CIP回程泵；
CIP forward and return pumps;

两个浓酸(碱)液隔膜泵；
Two diaphragm pumps for thick acid/alkali;

换热器(板式、管式)；
Heat exchanger(plate or tubular type);

一个电器控制箱；
One electric control cabinet;

一组控制管阀件；
One group of control pipe and valve components;

一套自动执行元器件及电器材料；
One suit of auto-performance components and electric appliance material;

CIP清洗液储罐：1000L-10000L；
CIP cleaning liquid storage tank:1000L-10000L;

根据客户需要，可以将系统制作成双回路、三回路、四回路等，可以多个清洗回路同时进行。
According to customer's requirements, we can design the system as double-circuit, three-circuit, four-circuit and so on, operating multi-circuit at the same time can also be designed.

加热方式可以为：板片式、盘管式、列管式。
Heating method: plate type, coil tube type, tubular type.

清洗液的加热为自动加热方式，通过温度控制仪设定清洗温度，控制蒸汽调节阀的开启量来限制蒸汽的量从而使清洗液维持在所需的温度；CIP站各罐内液位的高低采用自动报警并指示；当清洗液的浓度降低时，通过人工补加浓酸浓碱；清洗过程转换通过人工操作相应的管路阀门进行；罐内缺水时进行人工补水；

The cleaning liquid is heated automatically. Set cleaning temperature through the temperature controller; and control the steam control valve's opening frequency to limit the steam amount to ensure the cleaning liquid keep at required temperature. All the tanks liquid level in the CIP system adopt the auto-alarm and indication. Add thick acid and alkali manually when the cleaning liquid concentration is low. Changing relevant pipelines and valves manually to transform cleaning process. Operators should increase the water when the tank lack water.

技术参数 Technical Parameter

罐体规格 Tank size	1000L-10000L		
CIP 罐类别 CIP tank type	碱罐、酸罐、热水罐、清水罐、回水罐 Alcali tank、acid tank、hot water、clean water tank、water recycle tank		
清洗回路 Cleaning recycles	单回路、双回路、三回路、四回路 Single circuit、double circuits、three circuits、four circuits		
加热方式 Heating method	罐体内置盘管式加热、外置板片式加热、外置列管加热 Coil pipes inside、plate、tubular		
自动化配置及特点 Automatic types and charastics	全自动 Full Automatic	1.清洗液流量自动控制 2.清洗液温度自动控制 3.罐内液位自动补偿控制 4.罐内酸、碱液的浓度自动补偿 5.酸液、碱液、热水的换相自控操作 6.系统报警装置	1.Flow rate auto control; 2.Temperature auto control; 3.Auto compensate the cip liquid level; 4.Auto compensate the liquid concentrate; 5.Cleaning liquids auto transfer; 6.Auto alarm
	半自动 Semi-automatic control	1.清洗液温度自动控制 2.含配电柜，手动控制其他操作	1.Temperature auto control 2.Electrical control with manual operate the other matters.
	手动 Manual control	手动操作	Manual operate on the cleaning process