

WATER LEVEL MODULATING CONTROL SYSTEM

Industrial & Marine application

Model: A-WLMCS

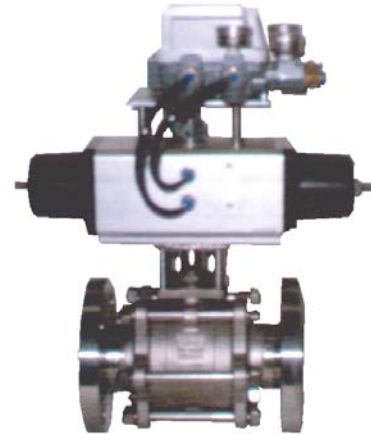
Features

- Inherently stable.
- Easily adjusted for individual operating requirements.
- Instant reversion to manual emergency.
- Electronic microprocessor base PID/Fuzzy controller.

Principle

The Autonics Water Level Modulating control system is a single element Electro-pneumatic control with a pneumatic Positioner and PID/Fuzzy system. The system comprises a Transmitter, converter module, float chamber, a feedline modulating control valve and an electronic microprocessor based PID/FUZZY controller.

CONTROL VALVE



PID & FUZZY LEVEL CONTROLLER

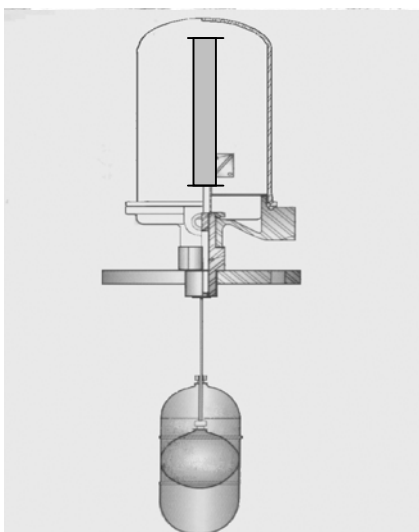


Description

The Autonic Water Level Modulating control system is a single element Electro-pneumatic control with a positioner and PID auto tuning system.

- A **Level Transmitter** with double-float chamber, mounted on the boiler shell, fitted with a coil which can be made according to the requirement.
- A flanged mount fully stainless steel **Control valve**, fitted with a positioner and pneumatic actuator, which is mounted in the boiler feedline.
- A microprocessor-based **PID/FUZZY Level controller** is mounted on the control panel.
- An electronic **Converter module** is also mounted on the control panel.

LEVEL TRANSMITTER



Operation

A positive change of water level in the boiler alters the level transmitter inductance value of coil causing an imbalance in the system. This signal is transmitted through the electronic control box and connected to PID controller. Then the microprocessor-based PID level controller transmitted an electrical signal to the pneumatic positioner to position and adjust the position of control valve.

A additional low/high water level alarm or burner cut out contact are also provided in the microprocessor-based level controller with the adjustable setting position.

Installation note

The water connection from the boiler to the float chamber should be, as short as possible and the level transmitter float chamber should be mounted close to gauge glasses. If required our technical staff will advice on individual installations.

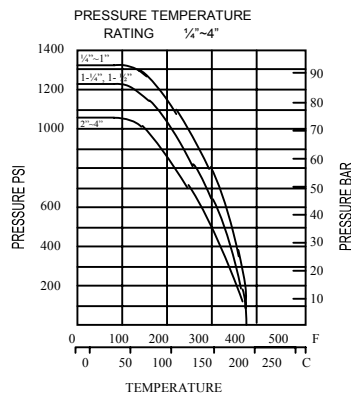
Important notice

Electronic level module and level controller must not be subjected to either vibration or excessive temperature. It is therefore recommended that they be not mounted directly on to the boiler shell.

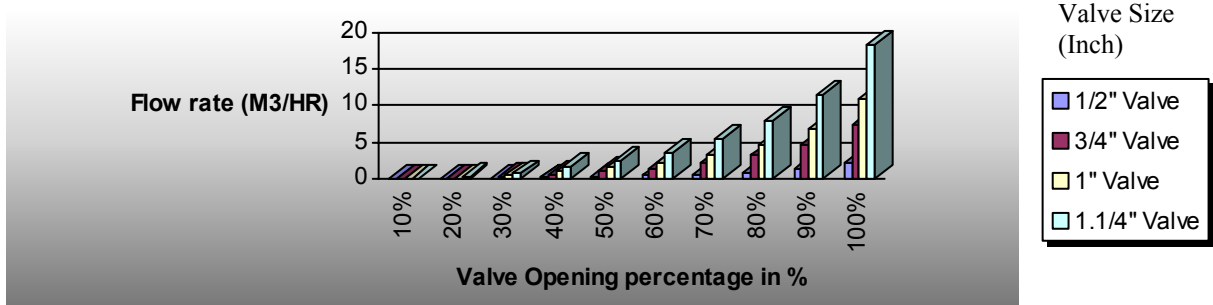
Specifications

Control valve

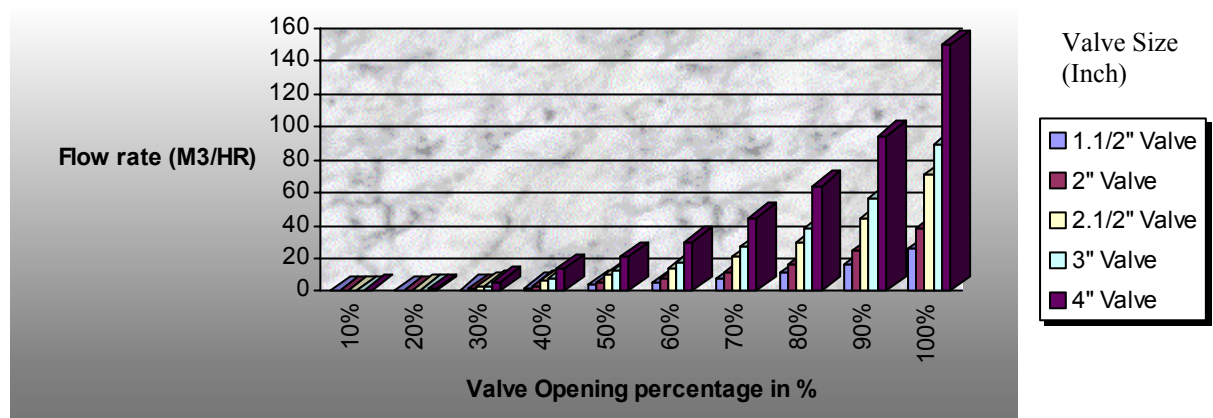
The V control valve has many different inserts for precision throttling control. The inserts are pinned to the END CAPS, and are used in conjunction with any of our standard seats. They are designed to change the flow characteristics of the valve and are offered in different shapes to meet a variety of modulating application. For very low Cv applications, a specially designed "Soft" V insert incorporate both the flow element and the ball seal into one component, and maintains continuous contact with the ball. This arrangement provides excellent low end accuracy (EQ%) and repeatability.



Control valve Flow rate (Cv)

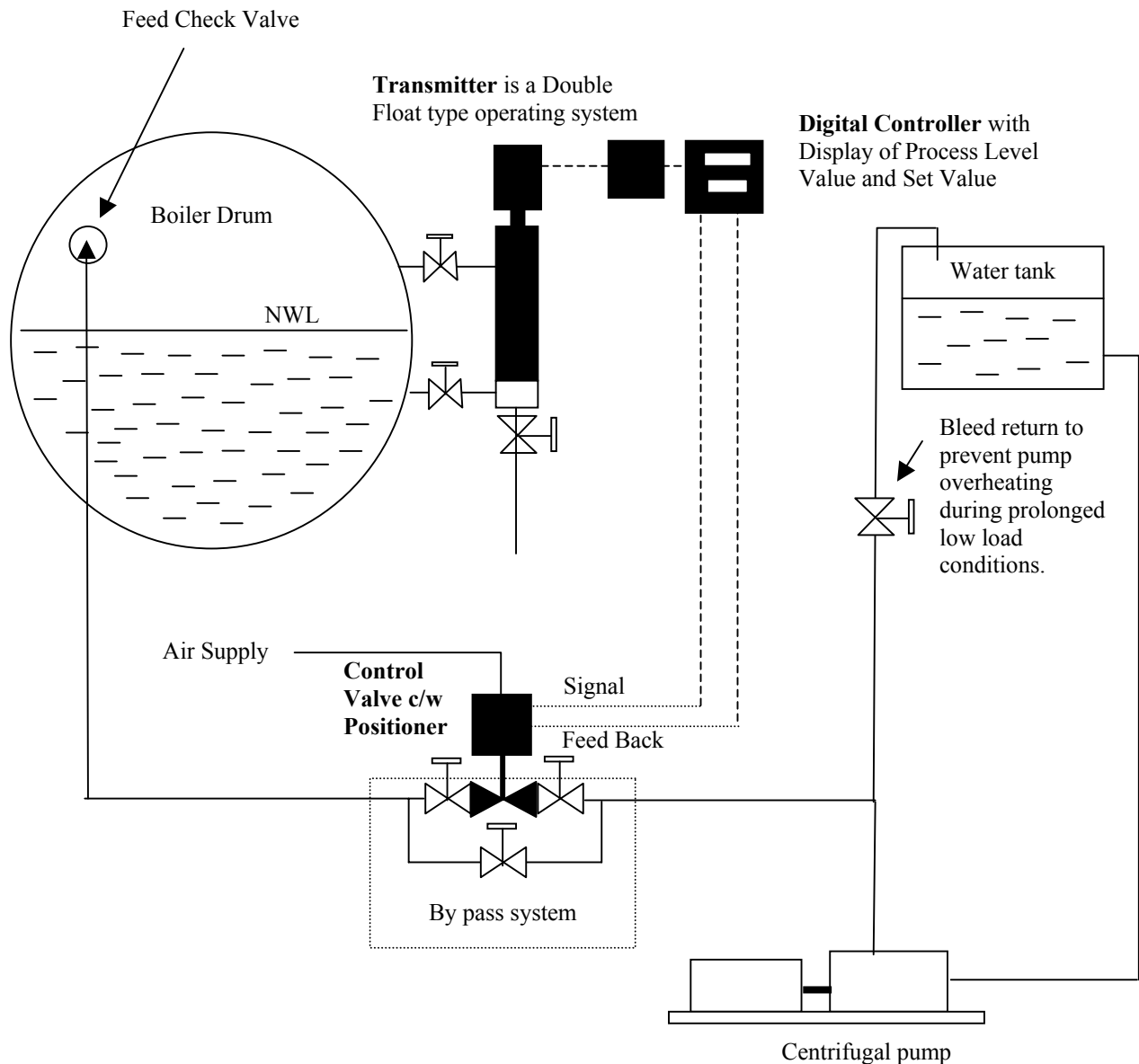


Control valve Flow rate (Cv)



Automatic Water Level Modulating Control System

Typical Drawing



Operating principle:

Transmitter – Detect the water levels in the drum and send signal to the digital controller.

Digital controller – With the signal given by the Transmitter and the controller will show the level on the meter (Process value) and it require a Set Value to control the level. The signal converted and it sends to control valve to give an indication.

Control Valve – The control valve work depend on the signal given by controller and after done the job it send a feed back signal to controller for confirmation. The valve open is depending on supply air with the signal given by controller and the Positioner then adjustment opening of valve will be make.

ORDERING INFORMATION

LEVEL CONTROL SYSTEM

VALVE SIZE:

½ - ½"	(2,180 Kg/Hr Max.)
¾ - ¾"	(7,360 Kg/Hr Max.)
1 - 1"	(10,910 Kg/Hr Max.)
1¼ - 1¼"	(18,270 Kg/Hr Max.)
1½ - 1½"	(26,180 Kg/Hr Max.)
2 - 2"	(38,730 Kg/Hr Max.)
2½ - 2½"	(70,640 Kg/Hr Max.)
3 - 3"	(90,000 Kg/Hr Max.)
4 - 4"	(150,000 Kg/Hr Max.)

LEVEL TRANSMITTER

C – with Chamber (Please provide Center to Center)
0 – without chamber

LCS - X - X
(Please specify the model when making your order)

Distributor:**LKS (M) SDN BHD**

No.15, Jalan Anggerik Mokara 31/63, Section
31, 40460 Shah Alam, Selangor, Malaysia.
Tel.: 603 – 5124 0822 Fax.: 603 – 5124 0222
E-mail 1: lks5415@tm.net.my
E-mail 2: info@lkssb.com.my

Reference:

Client : UNIPALM CO. LTD.
Site : Southern Thailand, Ao Luk
Boiler : Yoshimine 20TPH II Drum Boiler

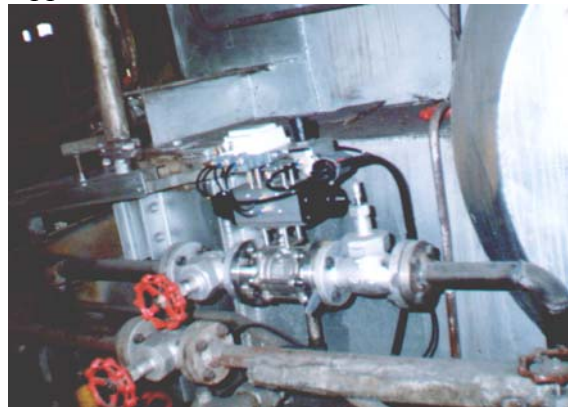
Site Office:



Monitoring the control valve action



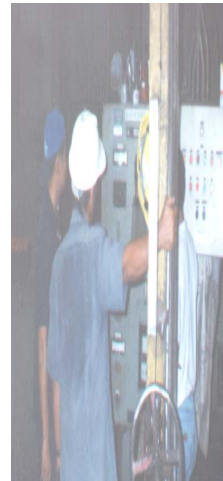
Control Valve Location – beside the Upper drum



Level Controller
c/w chamber



PID/ Fuzzy Controller
with converter



Testing & Commissioning



UPDATED ON: 27TH OCT 2000

<u>Company Name</u>	<u>Site</u>	<u>Qty</u>
1. KL KEPONG GROUP	IND'SIA	2
2. ORIENTAL GROUP	M'SIA & IND'SIA	3
4. WEMBLEY IBAE SDN BHD	OEM	10
5. BIPES PROCESS SDN BHD	OEM	2
6. SUN METAL WORKS SDN BHD	OEM	2
7. MULTI PRIMA ENTRAKA	INDONESIA	4
8. PT GUNUNG MARAS LESTARI	INDONESIA	2
9. PT STEELINDO WAHANA PERKASA	INDONASIA	2
10. AGRORIENTAL, S.A. GROUP	HONDURAS	8
11. EMPACADORA DEL ATLANTICO GROUP	HONDURAS	6
12. TEE THE OIL PALM MILL	JOHOR	2
22. SALIM GROUP	INDONESIA	2
23. PT KARYATAMA TEKINDO	INDONESIA	2
27. ULTRA AUTOMATION SDN BHD- INDONESIA	INDONESIA	2
28. KUMPULAN – SARAWAK MILL	SARAWAK	1
29. LNG – INDONESIA PROJECT	INDONESIA	1
30. MECHLINK- PRIVATE MILL	JOHOR	1
31. BIVP - FELDA	SELANGOR	1
32. MECHMAR ENERGY – PT SMART	OEM	3
33. SUN BOILER – INDONESIA	INDONESIA	1
34. UNIBOIL – SANDAKAN	SABAH	1
35. MECHMAR ENERGY – PENISULAR MALAYSIA	OEM	2
36. ULTRA AUTOMATION SDN BHD- INDONESIA	INDONESIA	1
37. GOLDMAN SEA – SIBU	SARAWAK	1
38. SUN BOILER – INDONESIA	INDONESIA	1
39. ULTRA AUTOMATION SDN BHD- PT KARYATAMA	INDONESIA	2

TOTAL

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