



ISO-9001:2008 **REGISTERED FIRM**
DNV Certification B.V. The NETHERLANDS

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- Machinery factory

- Instruments factory

- LED factory

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HANLA
IMS
INSTRUMENT
MACHINERY
SYSTEM

VALVE REMOTE CONTROL SYSTEM

VALVE REMOTE CONTROL SYSTEM



Greetings



"We will provide our customers with much more benefits from the integrate system."

Our company was established in 1989 specialized in the production of the level measuring instrument with the people oriented business philosophy while leading the technology. As a result, the company was listed in KOSDAQ under the company name "HANLA Level Co., Ltd. in 2007. In Oct. 2009, the company name was changed to HANLA IMS Co., Ltd. and now we are pushing forward with another new take-off through the expansion of the business area.

The company name was changed to HANLA IMS (Instrumentation Machinery System) Co., Ltd. to cover every business area to be diversified to Loading Computer, Valve Remote Control System, Deck Machinery, LED Lighting, Ballast Water Treatment System (BWTS), etc. from the measuring instrument business which is the company's existing business area, so we are determined to keep growing up as a company to be specialized in the integrate system in the field of shipbuilding and marine engineering, onshore plant and eco-friendly industry.

The business diversified to be developed for the company specialized in integrate system is now showing the increase in the sales every year thanks to our customers' encouragement and further BWTS will unveil the best quality product with better quality and price having the conveniences in installation and operation by improving the problems that other companies encountered in the existing market. Moreover, we are always doing our utmost for customer satisfaction since we have set up the factory in China to have the basis to be a global company.

We are committed ourselves to pulling out all the stops to be a company giving our customers the full satisfaction and reliability and contributing to the global society through the continuous challenge and innovation and continuous technical development.

We sincerely appreciate your encouragement and interest.

CEO/HANLA IMS Co., Ltd.

CEO Seok jun Ji

CEO Yeong Gu Kim

Company History

2000

- 2009. Changed Name to HANLA IMS(November)
- 2009. Started business of Deck Machinery
- 2008. Started business of Valve Remote Control
- 2008. Established an affiliated company of HANLA NMT
- 2007. Established branch factory in China
- 2007. Listed in Korean Stock Market (KOSDAQ)
- 2005. Awarded an export prize.(10,000,000 usd)
- 2005. Q-gold mark certified from Samsung Heavy Industries
- 2004. Awarded an export prize(5,000,000 usd)
- 2002. Established a joint-venture company in China
: "TAIZHOU HANVI INSTRUMENT Co., Ltd
- 2000. Moved into new factory in national industrial complex
: Land 3,300m2 / Floor space 3,200m2
- 2000. CE mark certified from DNV

1990

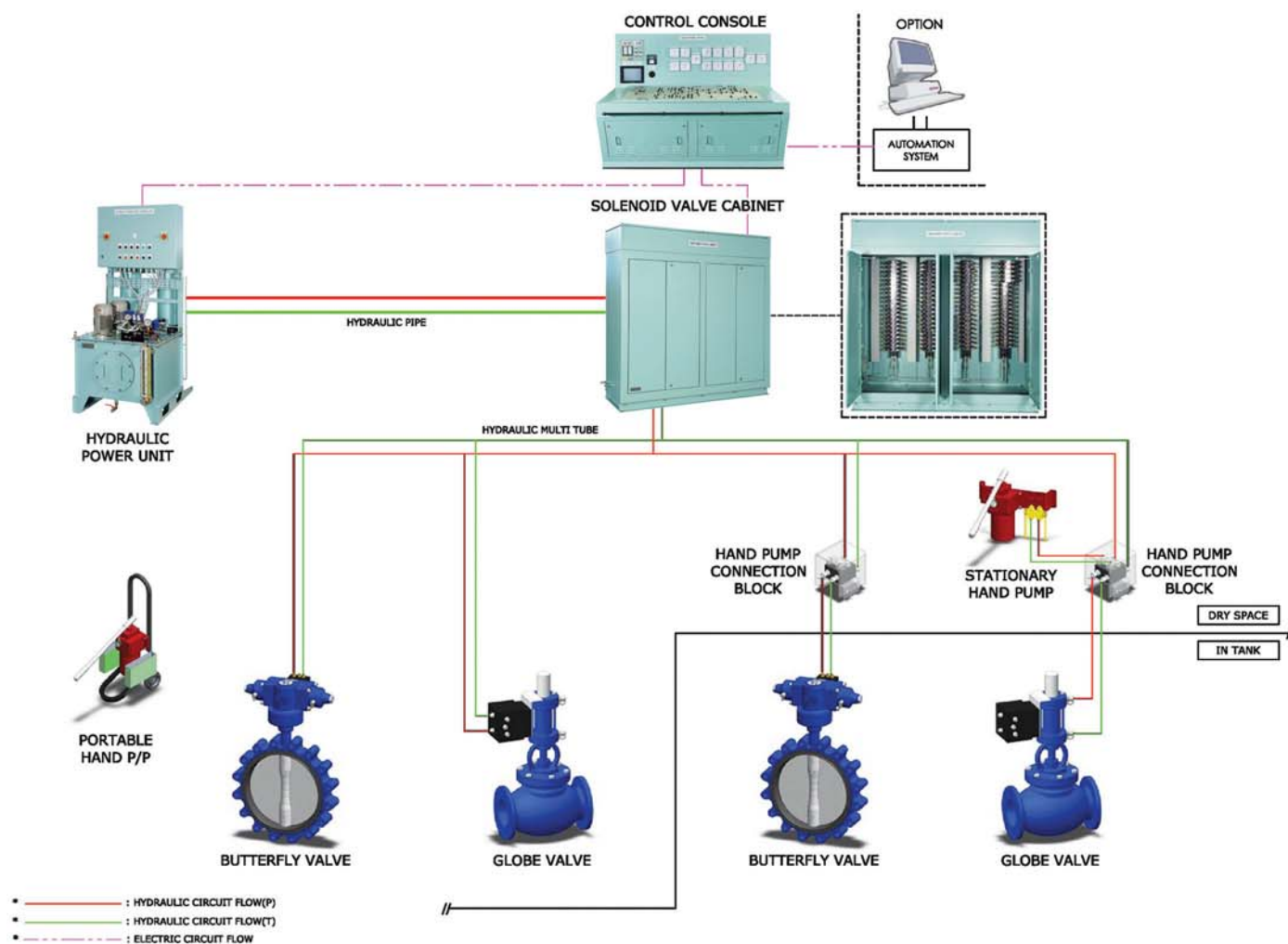
- 1997. ISO 9001 certified from DNV
- 1997. Representative agreement with kamstrup & klay : pressure & temperature instrument
- 1996. Representative agreement with CSI by in Holland : Engine room alarm & monitoring system
- 1995. Registered on manufacturer list of Korea Electric Power corporation about instrumentations
: Nuclear electric power plant (Y and S quality class)
- 1995. Technical license with Tokyo Keiso Japan : Level Instrument
- 1994. Registered on manufacturer list of Korea Electric Power corporation for instrumentations
: Thermal electric power plant (R quality class)
- 1994. Products type approved from
: ABS, KR, LR, DNV, BV, GL, NKK, RINA, etc
: Level instrumentations
- 1993. Representative agreement with VEGA Germany
: Level instrumentations
- 1992. Technical agreement with Auxitrol France
: Air purge type level gauging system
: Rader beam type level gauging system
- 1989. Established company

Contents

VALVE REMOTE CONTROL SYSTEM

VALVE REMOTE CONTROL SYSTEM

"VALVE REMOTE CONTROL SYSTEM" manufactured by HANLA IMS are designed according to shipyard specification, client's requirements and rule requirement of classification society. Our system division in HANLA IMS make an effort to supply the best valve remote control system and reasonable price.



HYDRAULIC ACTUATOR



General

HANLA IMS hydraulic actuators type HLT-series are especially designed for the operation of quarter turn valves such as butterfly valve, plug valve and ball valves. HLT-Series hydraulic actuators are available in a range of up to 12,800 N.m at maximum working pressure (16MPa – 160 bar).

HLT-Series hydraulic actuators can be operated by stationary hand pump, portable hand pump or manual hydraulic transmitter via quick connectors or fitted pipes.

In addition, HLT-Series hydraulic actuators are applied to any place, even submerged, dry space, on deck and in hazardous area. HLT-Series hydraulic actuators provide constant output torque over the complete quarter-turn.

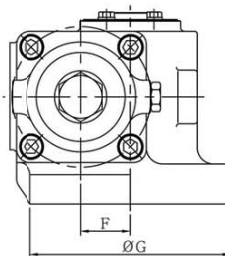
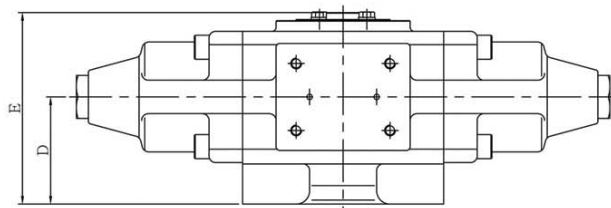
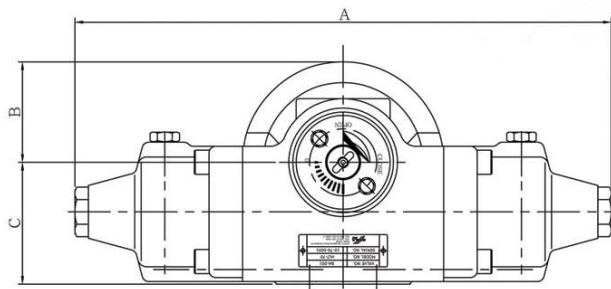
- Rack and pinion type design
- Adjusting range : $90^{\circ} \pm 5^{\circ}$
- Local visual indicator
- Manual override available
- Limit switch box available
- Maximum working pressure 16MPa (160bar)
- Mounting connection flange : ISO 5211
- Easy maintenance and assembly works
- Accurate and reliable operation
- Reliable, long life performance

Characteristics

Model	Max. output torque -N.m (kgf.m)	Max. working pressure- bar (MPa)	Adjustment angle	Cylinder volume capacity (cm ³)	Mounting flange (ISO 5211)
HLT-13	215.4 (22)	160 (16)	90°±5	23 (±1)	F05, F07
HLT-35	586.1 (59.8)			62 (±3)	F07, F10
HLT-70	1,097.2 (112)			111 (±6)	F10, F12
HLT-135	2,110 (215.2)			222 (±12.5)	F12, F14
HLT-300	4,747.5 (484.4)			500 (±25)	F14, F16
HLT-500	8,510.4 (868.3)			896 (±49)	F16, F25
HLT-800	12,820 (1,308.2)			1349 (±75)	F25, F30

VALVE REMOTE CONTROL SYSTEM

Dimension & Weight



Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Weight (kg)
HLT-13	286	52.5	67	60	108	22	105	9
HLT-35	329	62.5	79.5	68	124	30	125	15
HLT-70	400	75	91	80	143	37	150	25
HLT-135	462	87.5	114	98	177	48	175	35
HLT-300	598	105	144	112	200	69	210	69
HLT-500	792	150	174	130	237	84	300	104
HLT-800	598	105	144	155	267	100	350	135

ELECTRIC ACTUATOR

HANLA IMS electric actuators type EQ-series are designed and invented for valve automation like ball valve, butterfly valve, plug and even dampers. Small, light and compact design, high torque and various control option meet all demands.

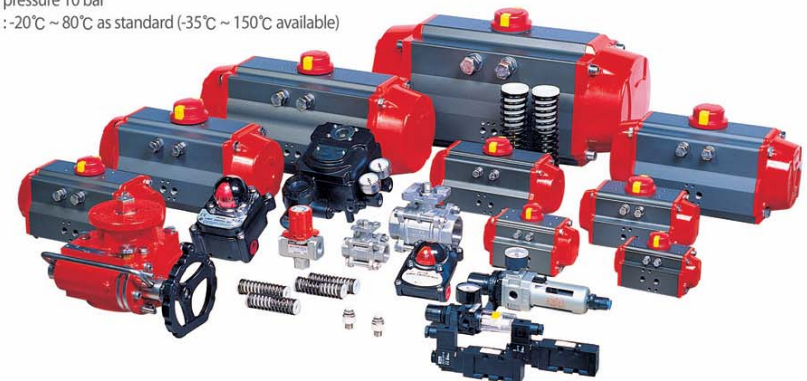
- Manual hand wheel
- 4 Limit switches as standard (2 for operation and 2 for extra)
- Captive cover bolt
- Space heater
- Terminal block (11P)
- Mounting connection flange : ISO 5211
- Rechargeable battery backup actuator for emergency application



PNEUMATIC ACTUATOR

HANLA IMS pneumatic actuators type HP series are compact, long-life and high quality and especially designed to meet the simple operation of quarter-turn valves. HP actuators provide a wide range of output torque for ball valve, butterfly valve, plug and damper valve.

- Rack and pinion & Scotch yoke type design
- Double acting / Single acting (Spring return type)
- Connection flange : ISO 5211 / DIN 3337, VDI/VDE 3845, NAMUR
- Maximum working pressure 10 bar
- Temperature range : -20°C ~ 80°C as standard (-35°C ~ 150°C available)



VALVE REMOTE CONTROL SYSTEM

HYDRAULIC POWER UNIT



"Hydraulic power unit" consist of oil reservoir, hydraulic pumps, electric motors, control panel, electric & hydraulic component and accumulators etc... All components are selected to ensure high reliability and by the requirements.

Hydraulic power unit is designed to simple arrangement, easy control and easy maintenance.

Control panel of hydraulic power unit enable to control the hydraulic pumps (Main/Stand-by) and pump selection and enable to monitor the abnormal alarm as like pressure, level and temperature.

In order to keep the adequate capacity of the accumulator, the hydraulic power delivers the higher pressure than the designed working pressure of VRC system. But the working pressure of VRC system can be limited at the required working pressure by the function of the pressure reducing valve.

The accumulator has three main purposes ;

- Provide the reasonable time interval between start and stop of pumps by the compensation of the internal leakage in VRC system during the time given by the customized requirement.
- To secure and supply the constant hydraulic pressure
- To guarantee the complete operation of the specified valves which are clarified by the client's request under an emergency operation.

SOLENOID VALVE CABINET

"Solenoid valve cabinet" divide the hydraulic part and the electric part.



The hydraulic part in SVC consist of directional valves, flow control valves, manifold blocks, pressure filter and feed back components etc...

The electric part in SVC arrange to connect for electric wiring of valve control and feed back signal.

Installed in hazardous area, composed of the explosion type (EEx-i) solenoid valve and control the function of each actuated valve via an electric signal from control console or control station.

CONTROL CONSOLE



"Control console" enable to operate and monitor the valve remote control system and position indication via switches and lamps installed on "MIMIC" plate.

And, control console enable to monitor the tank level gauging system, cargo monitoring system and various related equipments.

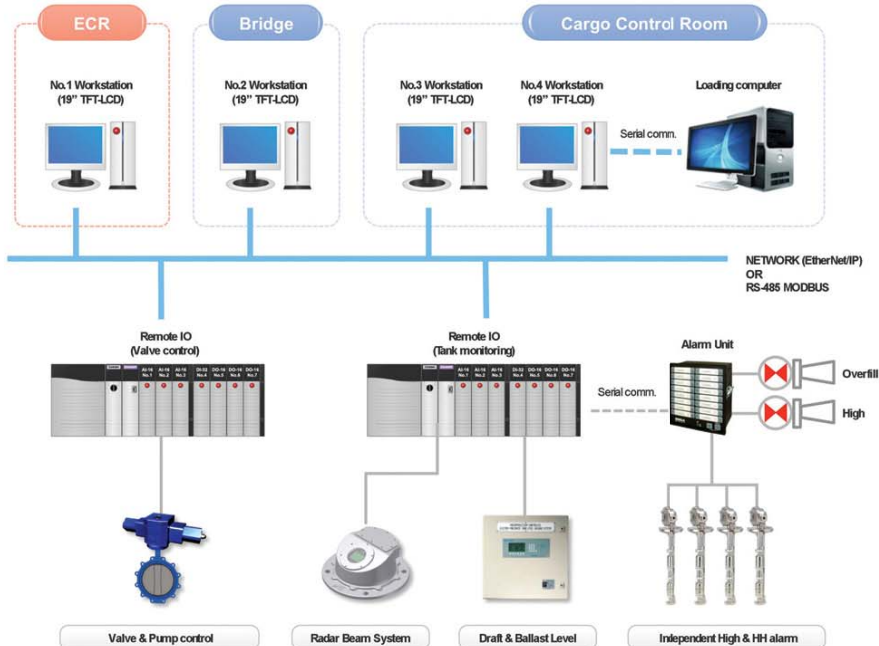
TritonAuto (Monitoring and Control System)

General

- TritonAuto system has been designed and developed by HANLA IMS in order to operate effectively the cargo and ballast of the onboard vessel.
- The state of equipments are graphically displayed on the piping diagram mimics of the workstations, and the operator may be controlled the equipments on the piping diagram mimics.
- The I/O modules are able to interface with TritonAuto workstation via EtherNet/IP high speed communication. Also, the I/O modules are able to interface with Integrated Alarm Monitoring and Control System (ICMS) via serial communication supply by other maker for monitoring and control of Engine room and/or cargo equipments.
- The I/O modules are possible to distributed arrangement, and the distributed I/O modules are communications via a high speed EtherNet/IP or ControlNet.
- And the I/O modules may freely be adapted even under operation conditions.

System architecture

- The TritonAuto is the system for remotely monitoring and controlling the valve actuators, pumps and tanks through I/O modules based on a computer workstations



Note : System configuration of the TritonAuto will be applied according to order specification.

Feature

- Alarm and monitoring system
- Alarm and log print
- Selected indication
- Tank monitoring with level correction, volume calculation, density/weight correction
- Trim/list correction
- Stability calculation
- Valve remote control and monitoring
- Pump remote control and monitoring
- High speed data communications via EtherNet/IP and ControlNet
- Interface with ICMS and Loading computer
- System self check



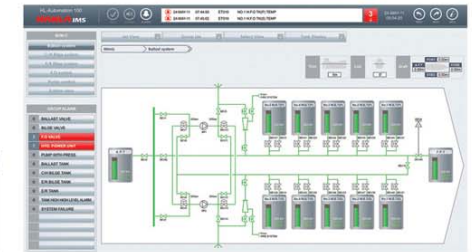
<Selected indication>

Applications

- Cargo control and monitoring system
- Ballast control and monitoring system
- Bilge system
- Fuel oil system with temperature control
- Anti-heeling control system (one way pump or tow way pump)



<Pop-up window for valve control>



<Ballast system mimic>

I/O modules

TritonAuto system provides the following I/O modules;

- Power supply
- Controller
- EtherNet/IP communication module for workstation
- ControlNet communication module for distributed I/O modules
- RS-485 Modbus communication module for other system
- Digital Input module (32 channels, 10~31.2V DC)
- Digital Output module (16 channels, 10~30V DC isolated output)
- Digital Output module (16 channels, 10~265V AC, 5~150V DC isolated contact)
- Analog Input module (16 channels, Voltage/current input)
- Analog Output module (8 channels, Voltage/current output)



<I/O modules>