BY CONTROLS, INC.

ISO 9001 : 2008
ISO 14001 : 2004
OHSAS 18001 : 2007

www.bycontrols.com

BY Controls, Inc. established in 1978, we have been supplying marine equipment of vessel over 30 years.

We acquired ISO 9001:2008, ISO 14001 : 2004, OHSAS 18001 : 2007, CE, and certified classification by ABS, BV, DNV, GL, LR, and others.

We are one of the leading companies in the hydraulic and pneumatic control system field in Korea and overseas marine market.

We are having an excellent reputation from customers since we promoted business.

COMPANY HISTORY

Jul. 1978 : Established in Busan, Korea.
Jun. 1982 : Developed Manual Hydraulic Remote Control System.
Jul. 1991 : The company moved into newly developed industrial complex in Gimhae City.
Aug. 1992 : Wax Type Regulating valve was developed and received a U.S. patent no.5135163.
Jul. 1994 : Main Engine Top Bracer was developed for shipbuilding.
Jul. 1995 : The company made a sales and technical collaboration with Norriseal Controls, a U.S. control valve manufacturing company.
Jul. 1996 : Global Body and 3-Way Control Valve are developed for temperature, pressure and level control applications.
The valves are suitable in petrochemical, oil and gas exploration, shipbuilding and marine applications.
Following certifications have been issued for the valves LR, DNV, KR, ABS, NK, GL, and USCG.
Nov. 1997 : Telescopic Spreaders for 20, 40 and 45 feet container are developed.
Sep. 1998 : Electro-Pneumatic Controller applications are developed and the patent is pending in Korea.
Sep. 1998 : Watertight sliding Doors are developed for shipbuilding and offshore rigs.
Jan. 2000 : Changed the company name to 'BY Controls, Inc.'
Feb. 2000 : Acquired the ISO 9001:1994 Cetificate awarded by DNV Certification Ltd.
Mar. 2002 : Electro-Pneumatic Controller applications are developed and took the patent.
Jun. 2002 : Developed Valve Remote Control System.
Apr. 2003 : Acquired ISO 9001:2000 Certificate awarded by KR Certification Ltd.
Feb. 2003 : Developed Cryogenic valve and High Temp. & Press. Stream control valves for LNG Ship.
May. 2006 : Developed Electro-Hydraulic Actuator for Marine.
Sep. 2008 : Awarded Bronze tower Order of Industrial Service Merit. (No.2039)
Feb. 2010 : Acquired CE Certificate for Watertight Sliding Door and Valve Remote Control System awarded by BUREAU VERITAS.
Dec. 2012 : Acquired MED certificate for A60 Watertight Sliding Doors (WTSD-F type) certified by DNV (Cert. no. : MED-B-7969)
Dec. 2012 : Acquired DNV Type approval certificate for H60 Watertight Sliding Doors (Cert. no. : F-20295)
Aug. 2013 : Acquired MED certificate for A60 Watertight Sliding Doors (A-type) certified by DNV (Cert. no. : MED-B-8506)
Sep. 2013 : Awarded Excellent Cooperation Company from Hyundai Heavy Industries.
Apr. 2015 : Acquired OHSAS 18001 : 2007 Certificate Awarded by ABS.
Sep. 2015 : Acquired patent on Watertight Sliding Door

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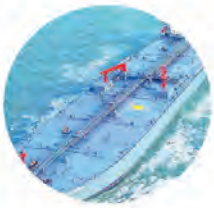
Valve Remote Control System
V.R.C. System

▶ General Information of VRCS

Valve Remote Control System is applied for remote control of valve and designed primarily for use on board ship. The remote valve is provided with hydraulic actuator powered from hydraulic power unit and controlled by solenoid valves. All remote valve actuators are designed to be capable of local manual operation.



▶ Control Console

Electric Control Console is designed for centralization control of all valve included in the system. The Control Console is designed and manufactured to include Cargo Handling and Monitoring systems.

▶ Hydraulic Actuator

Rack & Pinion Type Hydraulic Actuators are designed to the operation of various type of valves including butterfly valve, globe valve, angle valve and other special valves and have been proved high efficiency and reliability of performance.
Single and Double Acting are also available.

ROTARY (DOUBLE ACTING) ACTUATOR	
1. ACTUATOR MODEL	HRB 35/60/80/100/125
2. MECHANISM	RACK & PINION
3. TYPE	DOUBLE ACTING
4. WORKING PRESSURE	100/130 Bar
5. TEST PRESSURE	150/195 Bar
6. ADJUSTABLE RANGE	90±5°
7. FAIL POSITION	FAIL LOCK

ROTARY (SINGLE ACTING) ACTUATOR	
1. ACTUATOR MODEL	HRR 35/60/80/100/125
2. MECHANISM	RACK & PINION
3. TYPE	SPRING RETURN
4. WORKING PRESSURE	100/130 Bar
5. TEST PRESSURE	150/195 Bar
6. ADJUSTABLE RANGE	90±5° (At Closed Position)
7. FAIL POSITION	FAIL CLOSE OR OPEN

LINEAR(SINGLE ACTING) ACTUATOR	
1. ACTUATOR MODEL	HLS 110 / 130
2. MECHANISM	LINEAR PISTON TYPE
3. TYPE	SPRING RETURN
4. WORKING PRESSURE	100 Bar
5. TEST PRESSURE	150 Bar
6. FAIL POSITION	CLOSE
7. APPLICATION VALVE TYPE	GLOBE/GLOBE CHECK/GATE

Valve Remote Control System
V.R.C. System

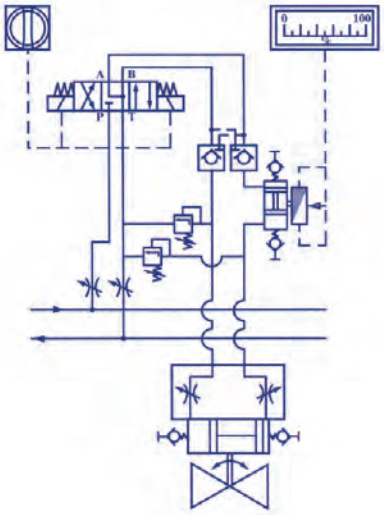
▶ Valve Position Indicator

Valve Position Indicator for open / close is designed to indicate the position of hydraulically actuated valves. In general, the valve position indication to be obtained with the limit switch or potentiometer directly mounted on the valve respectively. Both On / Off and Throttle types are available.

▶ Solenoid Valve Cabinet

Solenoid Valve Cabinet is designed to install of solenoid valves regulating the oil flow to each actuator according to the requirements and to contain complete manifold systems consisting of manifolds, solenoid valves and electric control components. The solenoid cabinet shall be installed in safety area.

▶ Typical Schematic Diagram



Valve Remote Control System
V.R.C. System

▶ Emergency Hand Pump Unit

Portable hand pump, when open / close operation of hydraulic remote valve can not be done due to damage of hydraulic piping, electric power failure or malfunction of hydraulic pump, etc., the operation can be done manually by the hand pump.

▶ Hydraulic Power Unit

HPU is designed to generate hydraulic pressure to open / close operation of the hydraulically operated valve. HPU consists of main electric motor & hydraulic pump and assistant electric motor & hydraulic pump. All components are selected to ensure high reliability and low noise.
Accumulator will be provided.

STANDARD SPECIFICATION		
Oil Tank Volume	100 ~ 1000 Liters	
Electric Motor	Voltage-3Ø440V60Hz or customer's requirement	
	Enclosure-IP56	
Pump Capacity	2.6 ~ 12.1 Liters	
Accumulator	32 ~ 400 Liters	
Max.Working Pressure	105 bar	
Pressure Switch Setting	Pump	Start at 150 bar
		Stop at 180 bar
Relief Valve Setting	190 bar	
Alarm	Level, Temperature, Low pressure & High Pressure	

Manual Hydraulic Remote Control System
HYDECK

HYD. ACTUATOR

▶ HYDECK

Hydeck is named for Manual Hydraulic Remote Valve Operating System. This system was developed to replace the reach rod system which is used to transmit the force needed to operate the valve in remote place mechanically. The Hydeck system is primarily composed of two parts, the transmitter which generates the power by pumping the hydraulic oil and the actuator which is fitted onto the valve body and receives the hydraulic oil from the transmitter to actuate the valve.

▶ FEATURES

- Easy and cost-effective installation
- Easier operation with higher efficiency and reliability of the performance.
- The transmitter can be installed in any position.
- High reliability without the necessity of special maintenance.
- Emergency local manual handle can be mounted on the receiver valve.

TRANSMITTER

STANDARD SPECIFICATION (TRANSMITTER)	
OPERATING FLUID	OIL
DISCHARGE CAPACITY	12 cc/rev, 24 cc/rev 48 cc/rev, 67 cc/rev
RELIEF PRESSURE	OPEN : 90 kg/cm² CLOSE : 80 kg/cm²
TEST PRESSURE	150 kg/cm²
TANK VOLUME	1.6 ℓ

STANDARD SPECIFICATION (RACK & PINION ACTUATOR)	
OPERATING FLUID	OIL
CYLINDER MATERIAL	STKM 13C
TEST PRESSURE	135 kg/cm²
TEMPERATURE RANGE	−29~70℃ (−20~128°F)
ACTUATOR TYPE	DOUBLE ACTING

※PATENT NO. 0382037

▶GLOBE VALVE WITH ACTUATOR

▶ANGLE VALVE WITH ACTUATOR

▶GATE VALVE WITH ACTUATOR

Electro-Hydraulic Actuator
ER Series

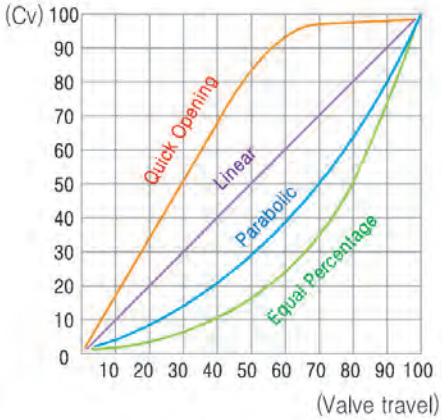
ERB 60

▶ ER FEATURES

- The Local Hyd. Power Unit(LHPU)is an integrated electro-hydraulic system for remote control of valves and acutators.
- The LHPU is a robust and compact self-contained actuator designed to operate quarter turn valves.
- Designed to mount the LHPU directly onto actuator.
- Provides throttling function with current output(4~20mA)

GENERAL SPECIFICATION	
Model	ERB 35 / 60 / 80 / 100 / 125
Operating System	Electro-Hydraulic Driven
Power	220VAC / 1Ph / 50Hz or 60Hz
Pump	Radial Piston Type
Operating Pressure	130 bar
Safety Valve Setting	150 bar
Hydraulic Fluid	ISO VG 15
Electric Motor	Max. Temperature 140 ±5°C / IP 40
Enclosure	Weathertight

▶ DP FEATURES

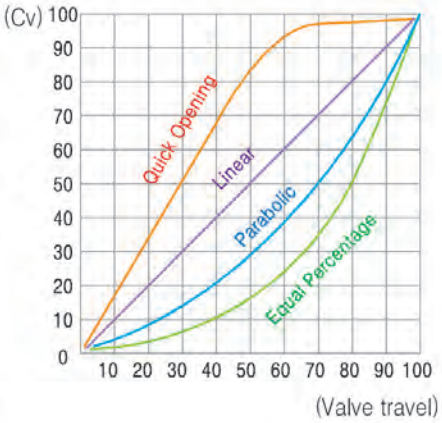


- Cage retained seat design is adopted.
  There are no internal threaded parts, and no special tool is required for replacement of the seats.
- Lock nut connects the bonnet and the actuator. Lock nut connection allows quick assembly and disassembly of the valves, and the design also allows the actuator to be oriented in any direction (360 degrees) in relation to the body.
- Handwheel and positioner are provided as an option. Any other accessories such as Air Filter Regulator, I/P Transducer, Pressure / Temperature Transmitter, Solenoid Valve and Limit Switch can be provided if required.

DP GENERAL SPECIFICATION	
Valve Body Type & Style	Single seated globe body with cage retained trim
Pressure Rating	ANSI 125~600 or JIS 5~63K
Valve Size	1/2″~2″ (15~50mm)
Temperature Range	PTFE V-ring : −20~460°F (−29~238℃) Laminated Graphite : −320~800°F (−195~427℃)
Body & Bonnet Material	ASTM A126 CL.B (FC200) ASTM A216 WCB (SCPH2) ASTM A536 65-45-12 (FCD450) ASTM B584 C905 or C836 (BC3 or BC6) ASTM A351 CF8 or CF8M (SCS13 or SCS14)
Flow Coefficient (Rated CV)	3.8 to 56
Flow Characteristics	Parabolic, Equal Percentage, Linear, Quick Opening
Leakage Class	ANSI IV, V, VI
Rangeability	30:1~50:1
Actuator Size	35 in^2, 55 in^2, 85 in^2, 135 in^2, 180 in^2
Actuator Action	Direct (air to close) / Reverse (air to open)
Spring Range	3~15 psi (0.2~1.0 kg/cm^2) / 6~30 psi (0.4~2.0 kg/cm^2)

Control Valve
DG series

▶ DG FEATURES



• Eagle DG-Series Globe Body Control Valve is designed to operate under the most demanding flow control conditions. The core of this valve is the massive cage guidance system for the valve plug which provides strength, rigidity and years of precise flow control even in very high pressure drop applications.

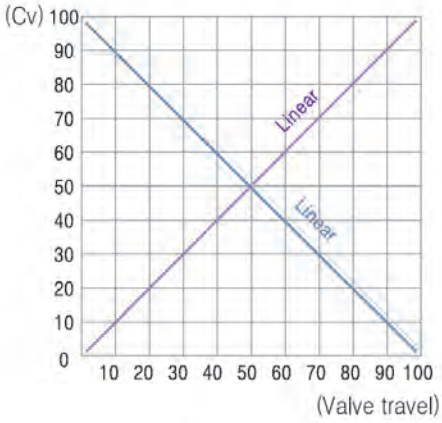
DG GENERAL SPECIFICATION	
Valve Body Type & Style	Single seated globe body with cage guided throttling trim
Pressure Rating	ANSI 125~2500 or JIS 5~63K
Valve Size	1″~16″ (25~400mm)
Temperature Range	PTFE V-ring : -20~460°F (-29~238℃) Laminated Graphite : -320~800°F (-195~427℃)
Body & Bonnet Material	ASTM A126 CL.B (FC200) ASTM A216 WCB (SCPH2) ASTM A536 65-45-12 (FCD450) ASTM A351 CF8 or CF8M (SCS13 or SCS14)
Flow Coefficient (Rated CV)	18 to 1200
Flow Characteristics	Equal Percentage, Linear, Quick Opening, Parabolic, Noise Reducing, Anti-Cavitation
Leakage Class	ANSI IV, V, VI
Rangeability	30:1~50:1
Actuator Size	35 in^2, 55 in^2, 85 in^2, 135 in^2, 180 in^2,
Actuator Action	Direct (air to close) / Reverse (air to open)
Spring Range	3~15 psi (0.2~1.0 kg/cm^2) / 6~30 psi (0.4~2.0 kg/cm^2)

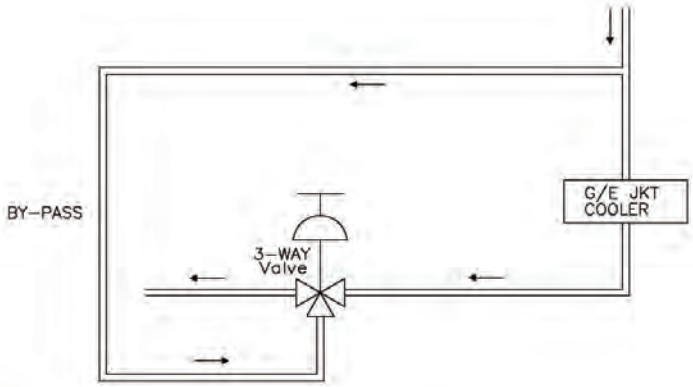
Control Valve
TG series

▶ TG FEATURES

TG-Series 3-Way Globe Type Control Valve can be used to control the circulation of water, oil, sea water or other liquids in heating or cooling application.

- Cage trim provides easy maintenance. All trim parts can be removed from the top of the valve.
- Cage-guided trim for increased valve stability and trim life.
- Spring located teflon stem packing eliminates the need for periodic adjustment.
- Lower maintenance cost through less down-time.
- No need to remove valve from line to replace trim.
- Lower stem friction for increased stability.



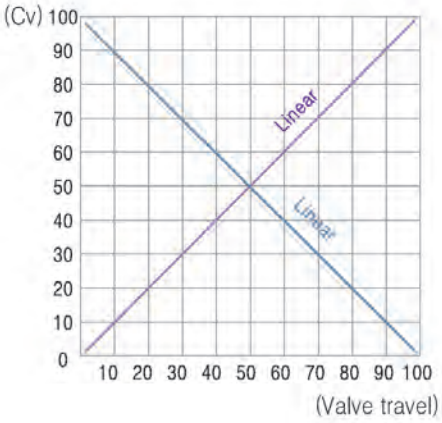


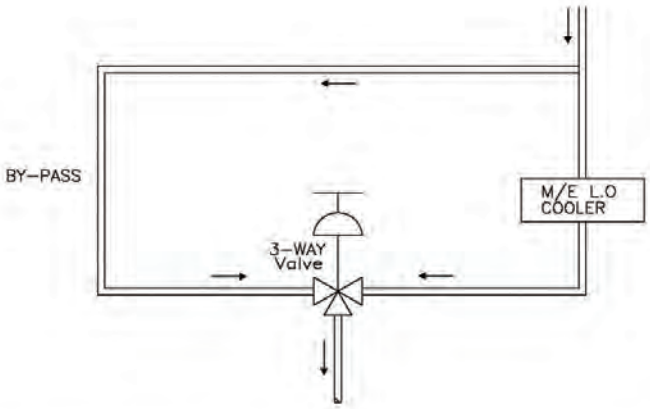
TG GENERAL SPECIFICATION	
Valve Body Type & Style	3-Way Globe Type
Pressure Rating	ANSI 125~2500 or JIS 5~63K
Valve Size	1″~16″ (25~400mm)
Temperature Range	PTFE V-ring : -20~460°F (-29~238℃) Laminated Graphite : -320~800°F (-195~427℃)
Body Material	ASTM A126 CL.B (FC200) ASTM A216 WCB (SCPH2) ASTM A536 65-45-12 (FCD450) ASTM B584 C905 or C836 (BC3 or BC6)
Flow Coefficient (Rated CV)	9 to 1890
Flow Characteristics	Linear
Leakage Class	ANSI III, IV, V, VI
Rangeability	30:1~50:1
Spring Range	3~15 psi (0.2~1.0 kg/cm²) / 6~30 psi (0.4~2.0 kg/cm²)

Control Valve
TR Series

▶ TR FEATURES

- Smoother throttling with greater accuracy
- Both converging and diverging flow configurations are available.
- The rotary plug is designed to prevent from being stuck by fine particulates or fouling material in the fluid.
- Air Failure Position can be easily reversed by re-installing the arm upside-down without taking out the valve body from the line.
- Handwheel and positioner are provided as an option.
  Any other accessories such as air filter regulators, I/P transducers, pressure / temperature transmitters, solenoid valves, limit switches can be provided if required.
- The actuator normally installed perpendicular to the valve stem could be installed at any horizontal angle (360 degrees) in accordance with the site conditions where the valve is located.





TR GENERAL SPECIFICATION	
Valve Body Type & Style	3-Way Rotary Type
Pressure Rating	ANSI 125~150 or JIS 5~10K
Valve Size	4"~24" (100~600mm)
Temperature Range	32~212°F (0~100℃)
Body & Bonnet Material	ASTM A126 CL.B (FC200) ASTM A216 WCB (SCPH2) ASTM A536 65-45-12 (FCD450)
Flow Coefficient (Rated CV)	145~5500
Flow Characteristics	Linear
Leakage Class	1.8% of the rated Cv
Rangeability	30:1
Spring Range	3~15 psi (0.2~1.0 kg/cm²) / 6~30 psi (0.4~2.0 kg/cm²)

Control Valve
Motor Operated Valve

Rotary Type Electric Actuator

Linear Type Electric Actuator

▶ FEATURES

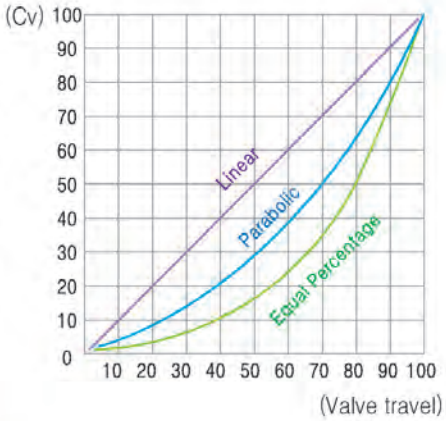
- Compact and Robust construction
- Fulfill all requirements for control valve actuators
- Precise Positioning
- Reliable performance and ability with long life at high loads
- Central arrangement of accessories

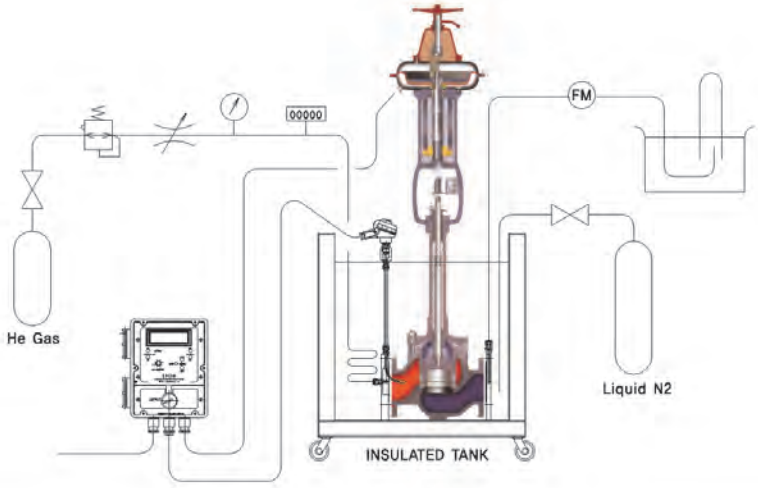
GENERAL SPECIFICATION

Valve Body Type & Style		2-way Globe Type	3-way Globe Type	3-way Rotary Type
Motor Actuator	Type	Linear Type Electric Actuator		Rotary Type Electric Actuator
	Power supply	115/230VAC/1Ph/50/60Hz, 24VDC		110/220VAC/1Ph/50/60Hz
	Force / Torque	1 ~ 25kN		100 ~ 1100Nm
	IP Class	IP67		IP67
	Action	On/Off & Modulating		
Pressure Rating		ANSI 125 ~ 300 JIS 5 ~ 20k	ANSI 125 ~ 300 JIS 5 ~ 20k	ANSI 125 ~ 150 JIS 5 ~ 10k
Valve Size		1/2" ~ 16" (15 ~ 400mm)	1" ~ 16" (25 ~ 400mm)	4" ~ 24" (100 ~ 600mm)
Temperature	Motor	-20℃ ~ 80℃		-20℃ ~ 80℃
	Valve	PTFE V-ring: -20 ~ 460℉ (-29 ~ 238℃) Liminated Graphite: -320 ~ 800℉ (-195 ~ 427℃)		32 ~ 212℉ (0 ~ 100℃)
Accessory		Limit Switch, Electronic Positioner, Position Transmitter, Local Control Module with Auto/Manual Select Switch, etc.		

▶ DC FEATURES

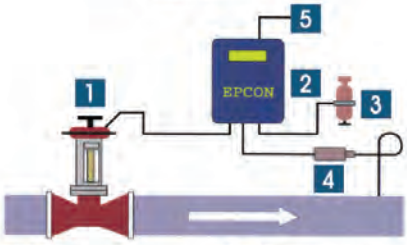
Eagle DC-Series Globe Body Control Valve is designed to operate under Low Temperature (-196℃) range services such as LNG (Liquified Natural Gas), Oxygen, Nitrogen and etc. The valve consists of standard valve body assembly and an extension type bonnet. Many types are provided to control fluids of low and very low temperature ranges and to meet the diversifying low temperature specifications. The core of these valve is the massive cage guidance system for the valve plug which provides strength, rigidity and years of precise flow control.





DC GENERAL SPECIFICATION	
Valve Body Type & Style	Single seated globe body with cage guided throttling trim
Pressure Rating	ANSI 125~2500 or JIS 5~63K
Valve Size	1"~12" (25~300mm)
Body & Bonnet Material	ASTM A351 CF8M or 3M (SCS14 or SCS16)
Packing Material	Laminated Graphite
Flow Coefficient (Rated Cv)	3.8 to 980
Flow Characteristics	Equal Percentage, Linear, Parabolic
Leakage Class	ANSI IV, V, VI
Rangeability	30:1~50:1
Actuator Size	35 in^2, 55 in^2, 85 in^2, 135 in^2, 180 in^2
Actuator Action	Direct (air to close) / Reverse (air to open)
Spring Range	3~15 psi (0.2~1.0 kg/cm^2) / 6~30 psi (0.4~2.0 kg/cm^2)

Control Valve
EPCON · BPCON

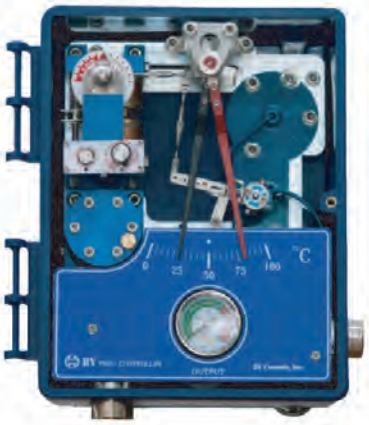


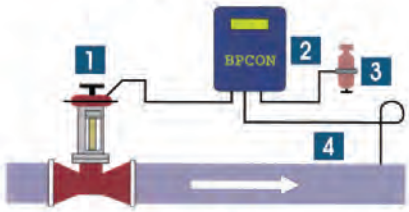
1 Control Valve
2 EPCON Controller
3 Air Filter Regulator
4 Transmitter
5 Power Supply

▶ EPCON FEATURES

BY EPCON controller does not require positioner and I/P converter.
This means that EPCON controller is more reliable and cost-effective.

EPCON GENERAL SPECIFICATION	
Power Supply Voltage	110 / 220V AC50 / 60Hz, 24V DC
Power Consumption	10W (Max), 9W (Steady state)
Input	4~20mA
Output	4~20mA standard, 5% span accuracy
Control Action	Direct or Reverse
Control Method	P, PI, PID
Local Set Point Adjustment	Push Button Switches and Digital Display
Remote Set Point Adjustment	4~20mA Standard Input
Display Modes	Process Value(PV), Set Point(SP)
Air Input	2.4±0.1 bar (35±1.5 psi)
Air Output	0.4~2.0 bar (6~30 psi)
Air Consumption	Zero at steady state conditions
Accuracy	0.5% of Full Span
Ambient Temperature Rating	−20~60℃
Dimension	228(W)×295(H)×149(D)mm
Enclosure / Material	IP44 / Polycarbonate





1 Control Valve
2 BPCON Controller
3 Air Filter Regulator
4 Sensor

▶ BPCON FEATURES

BY BPCON controller is applied to the process control of liquid, gaseous or vapor media.
The controller is generally used in combination with temperature or pressure control device as control valve.

BPCON GENERAL SPECIFICATION	
Control Action	Direct or Reverse
Control Method	PI, PID
Air Input	2.4±0.1 bar (35±1.5 psi)
Air Output	0.4~2.0 bar (6~30 psi)
Air Consumption	Steady: 0.13 Nm³/h. Maximum: 2.6 Nm³/h
Proportional Action	Proportional band 0~200%
Integral Action	0~10 minutes per repeat
Derivative Action	0~5 minutes per repeat
Accuracy	With in 1% Scale
Pneumatic Connection	PT 1/4"
Ambient Temperature Rating	−20~60℃
Dimension (only controller)	228.6(W)×261.5(H)×181(D)mm
Material	Polycarbonate

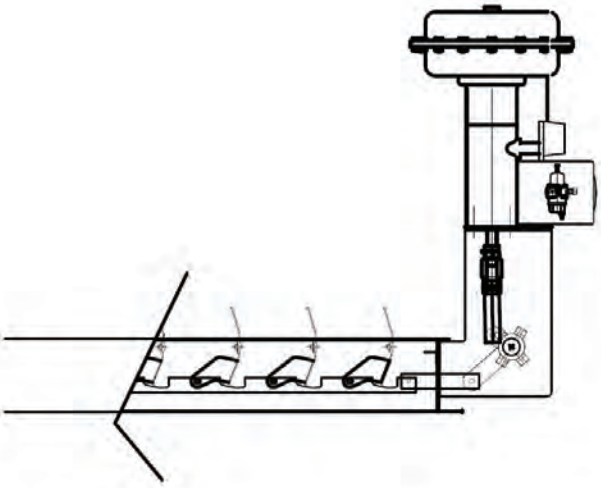
Diaphragm Actuator
PDD-85

▶ PDD-85

- The actuator controls the air cooler louver to be on and off.

▶ PDD-85 FEATURES

- Direct acting, Diaphragm type actuator for either throttling or on-off service.
- Easy maintenance and lower maintenance cost.
- Positioner is provided. Any other accessories such as Air Filter Regulator, I/P Transducer, Pressure/Temperature Transmitter, Solenoid Valve and Limit Swith can be provided if required.



PDD-85 GENERAL SPECIFICATION	
Size / Actuator Trust	85 in2 / 244 kgf
Input Pressure	0.4 ~ 2.0 Bar
Action	Direct
Fail Position	Open
Mounting	STD.
Diaphragm Material	Nitrile-Butadiene Rubber
Yoke Material	FCD45
Casing & Spring Material	Steel
Pneumatic Connection Size	NPT 1/4, Ø8 Brass Bite Type
Max Travel	60 mm
Painting (Diaphragm Case & Yoke)	ET5740 E56356 100μx 2 Coated
Operating Temp.	-20~80 ℃ (option: -40 ℃)

Control Valve
OFFSHORE

2-way Globe Control Valve

3-way Globe Control Valve

▶ OFFSHORE

BY control valve meets the most suitable high performance through the combination of trim design, actuator stability, shutoff capabilities and accurate valve positioning, It also can be applied to corrosive / sour gas services with full compliance to NACE requirement.
Various materials, pressure rating and end connections are available for offering a complete high performance valve control.

DGH & TGH FEATURES

- Noise Reducing
- Anti-Cavitation
- Tight Shutoff
- Long Life Cycle
- High Performance Design

OFFSHORE GENERAL SPECIFICATION

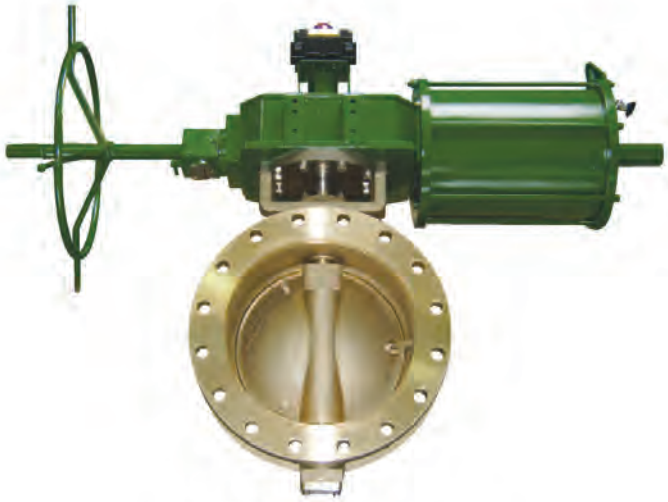
Model	DGH	TGH
Body Type	2-way Globe	3-way Globe
Pressure Rating	ANSI 2500	ANSI 2500
Valve Size	1″~16″	1″~16″
Body Material	A536, A216WCB, B584, A351 CF8 / 8M / 3M, Monel, DUPLEX AND ETC.	
Flow Coefficient (CV)	18 to 1280	9 to 1890
Leakage Class	ANSI Ⅳ, Ⅴ, Ⅵ	ANSI Ⅲ, Ⅳ, Ⅴ, Ⅵ
Flow Characteristics	Parabolic, Equal Percentage, Linear, Anti-Cavitation, Low Noise, Quick Opening	Linear, Quick Opening, Equal Percentage

Control Valve
OFFSHORE

Spring Return Actuator

▶ OFFSHORE

BY On / Off Valve meets the most suitable high performance through the combination of disc design, actuator stability, shutoff capabilities.
It also can be applied to corrosive / sour gas services with full compliance to NACE requirement.



Double Acting Actuator

ON / OFF FEATURES

- Single / Double Acting
- Tight Shutoff
- Long Life Cycle
- High Performance Design

OFFSHORE GENERAL SPECIFICATION	
Model	Pneumatic On/Off Valve
Body Type	Ball, Gate, Angle, Butterfly
Pressure Rating	ANSI 2500
Valve Size	1"~18"
Body Material	A536, A216WCB, B584, A351 CF8 / 8M / 3M, Monel, DUPLEX AND ETC.
Actuator Type	Spring Return & Double Acting
Flow Coefficient (CV)	18 to 1280
Leakage Class	ANSI IV, V, VI
Flow Characteristics	Quick Opening Modified Linear

Pressure Reducing Valve
RV Series

▶ RV01 FEATURES

EAGLE RV01 Pilot Type Pressure Reducing Valve is designed for general steam service, heating service, boiler burner service and etc.
This valve does not need assistant power such as electricity and air.

RV01 GENERAL SPECIFICATION	
Valve Type	Pilot Operated
Pressure Rating	ANSI 150 (JIS 10K)
Design Temperature	220℃
Valve Size	1/2″~ 6″ (15 ~ 150mm)
Applicable Fluid	Steam
Max Inlet	16 kgf/cm²
Outlet Press	0.5 ~ 8 kgf/cm²
Min Differetial Pressure	0.7 kgf/cm²
Leakage Class	ANSI IV (0.01% of Rated Cv)

▶ RV02 FEATURES

EAGLE RV02 Direct Type Pressure Reducing Valve is designed for Air, Gas and liquid. This is possible to regulate the fluid pressure at constant value on the outlet side of the valve, irrespective of fluctuation in load. Set pressure is designed within a range of 10 to 1.0 kgf/cm². The valve is designed for enable to disassembling the valve from upside without disconnecting a pipe.

RV02 GENERAL SPECIFICATION	
Valve Type	Direct Operated
Pressure Rating	ANSI 300 (JIS 20K)
Design Temperature	150℃
Valve Size	1/2″~ 6″ (15 ~ 150mm)
Applicable Fluid	Air, Gas, Liguid
Max Inlet	16 kgf/cm²
Outlet Press	0.5 ~ 8 kgf/cm²
Min Differetial Pressure	0.5 kgf/cm²
Leakage Class	ANSI IV (0.01% of Rated Cv)

▶ RV03 FEATURES

EAGLE RV03 Direct Type Pressure Reducing Valve is designed for Air and Gas.
The pressure balanced disc constantly and stably regulates the secondary pressure, it depends on the primary pressure variation.

RV03 GENERAL SPECIFICATION	
Valve Type	Direct Operated
Pressure Rating	ANSI 600 (JIS 40K)
Design Temperature	80℃
Valve Size	1/2″~ 2 1/2″ (15 ~ 65mm)
Applicable Fluid	Air, Gas
Max Inlet	30 kgf/cm²
Outlet Press	0.5~11 kgf/cm²
Min Differetial Pressure	0.5 kgf/cm²
Leakage Class	ANSI IV (0.01% of Rated Cv)

Safety & Regulating Valve

▶ PRIMARY PRESSURE REGULATING VALVE - PV01 FEATURES

EAGLE PV01 Direct Type Pressure Regulating Valve is designed for Air, Gas and Liquid. This is piston balance type, generally installed on discharge line of pump and stably maintains regular discharge pressure. The valve is designed for enable to disassembling the valve from upside without disconnecting a pipe.

PV01 GENERAL SPECIFICATION	
Valve Type	Direct Operated
Pressure Rating	ANSI 300 (JIS 20K)
Design Temperature	150℃
Valve Size	1/2″~ 6″ (15 ~ 150mm)
Applicable Fluid	Air, Gas, Liguid
Max Inlet	16 kgf/cm²
Outlet Press	0.5 ~ 8 kgf/cm²
Min Differetial Pressure	0.5 kgf/cm²
Leakage Class	ANSI IV (0.01% of Rated Cv)

▶ TEMPERATURE REGULATING VALVE - TC01 FEATURES

EAGLE TC01 Direct Type Temperature Regulating Valve is designed for steam and thermal oil. The design of this valve is simple to ensure that easy to install, steady operating and does not need assistant power. This valve does not need strainer because the screen is installed on inside body.

TC01 GENERAL SPECIFICATION	
Valve Type	Direct Operated
Pressure Rating	ANSI 300 (JIS 20K)
Valve Size	1/2″~ 6″ (15 ~ 150mm)
Applicable Fluid	Steam, Hot Water, Thermal oil
Max Inlet	10 kgf/cm²
Leakage Class	ANSI IV (0.01% of Rated Cv)

▶ SAFETY&RELIEF VALVE - SV01 / 02 / 03 FEATURES

EAGLE SV01, 02, 03 series Safety Relief Valve to protect from overpressure of process lines. The fluid to be applied is air, gas, steam, vapor and liquid. Disc Parts of SV01, 02, 03 valves are composed of the disc and disc holder. Being used in high temperature, the seperated disc and holder have excellent seat tightness of the distortion more than unified disc.

SV01 / 02 / 03 GENERAL SPECIFICATION	
Valve Type	Full Bore
Pressure Rating	SV01 : ANSI 150 (JIS 10K) SV02 : ANSI 300 (JIS 20K) SV03 : ANSI 600 (JIS 40K)
Design Temperature	350℃
Valve Size	SV01 : 1/2″~ 8″ (15 ~ 200mm) SV02 : 1/2″~ 8″ (15 ~ 200mm) SV03 : 1/2″~ 1 1/2″ (15 ~ 40mm)
Applicable Fluid	Steam, Hot Water, Gas & Liquid
Leakage Class	JIS B 8210

Watertight Sliding Door

Patent acquired on Sep. 2015

Watertight sliding doors are water-tight and safe from the fire.
They are placed inside the ship and an integrated part of watertight bulkheads.
The door has an integrated electric and hydraulic system with a power unit consisting of an electric motor and a pump in the door frame itself.
The control of operation is performed from the control panel in wheelhouse and by local lever on door side.
In an emergency, the operation of door opening/closing is possible by using hand pump mounted on the power unit.

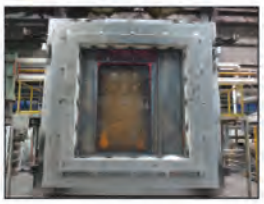
GENERAL SPECIFICATION	
Type	Coaming Type, Flush Type
Structure	Classification Grade A ~ EH
Electrical System	Relay Control System, PC Bus Communication
Hydraulic System	Hyd. Pump & Electric Motor with Hyd. Tank and Accessories Warning / Alarm System
Water Head	0 ~ 75 meter
Fire Rating	A0, A60
Regulation & Certification	SOLAS & Class Cert, NMD, NORSOK

Pneumatic Fire Door
FSD-A

▶ FSD-A FEATURES

▶ MED-B-9771

▼ A60 Fire Door Test



- This door is designed for internal and external use.
- Pneumatic or Manual operating system can be adopted.
- Safety Device provides safe pass through the door.
- When pneumatic system is applied, manual operation is available under pneumatic power failure.

FSD-A GENERAL SPECIFICATION	
Model	FSD-A
Opening Direction	Right or Left
Max. Clear Opening Size	W1250 x H2100 (to customer's requirement)
Fire Rating	A0, A30, A60
Material	Steel Plate (Stainless Steel, Mild Steel, Galvanized Steel, etc.)
Operating System	Pneumatic or Manual
Installation	Bolted or Welded
Safety Device	Safety Strip on Door Edge Side
Certificate	DNV Type Approval Certificate
Option	Weathertight / Gastight Seal, Hose Port, Window
Insulation	45mm Thick x 2 Layer / Density 128K

Pilot Door

Folding Type Watertight Pilot Door

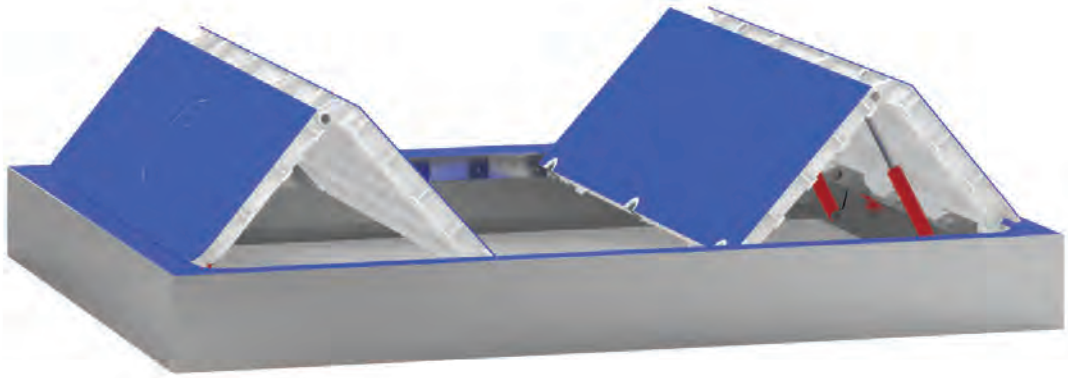
Sliding Type Watertight Pilot Door

The pilot doors are fitted in the side shell plating, one at port side and one at starboard side.
The pilot door consists of door, ladder reel with pilot ladder and necessary fittings.
Each door has an independent hydraulic system with each power unit consisting of an electric motor and pump.
The control of operation is performed from the control panel which is located adjacent to each side pilot door.
In an emergency, the operation of door opening/closing and cleat lock/unlock is possible by using hand pump mounted on the power unit.

GENERAL SPECIFICATION	
Type	Flush Type
Water – Proof	Watertight, Weathertight
Structure (Door & Frame)	Classification Grade A
Movement	Folding, Hinged, Sliding
System	Electro – Hydraulically Driven
Ladder Reel	Electro Motor Driven
Regulation & Certification	SOLAS & Class Cert.

ROV Hatch
Hydraulic Hatch

▶ ROV HATCH



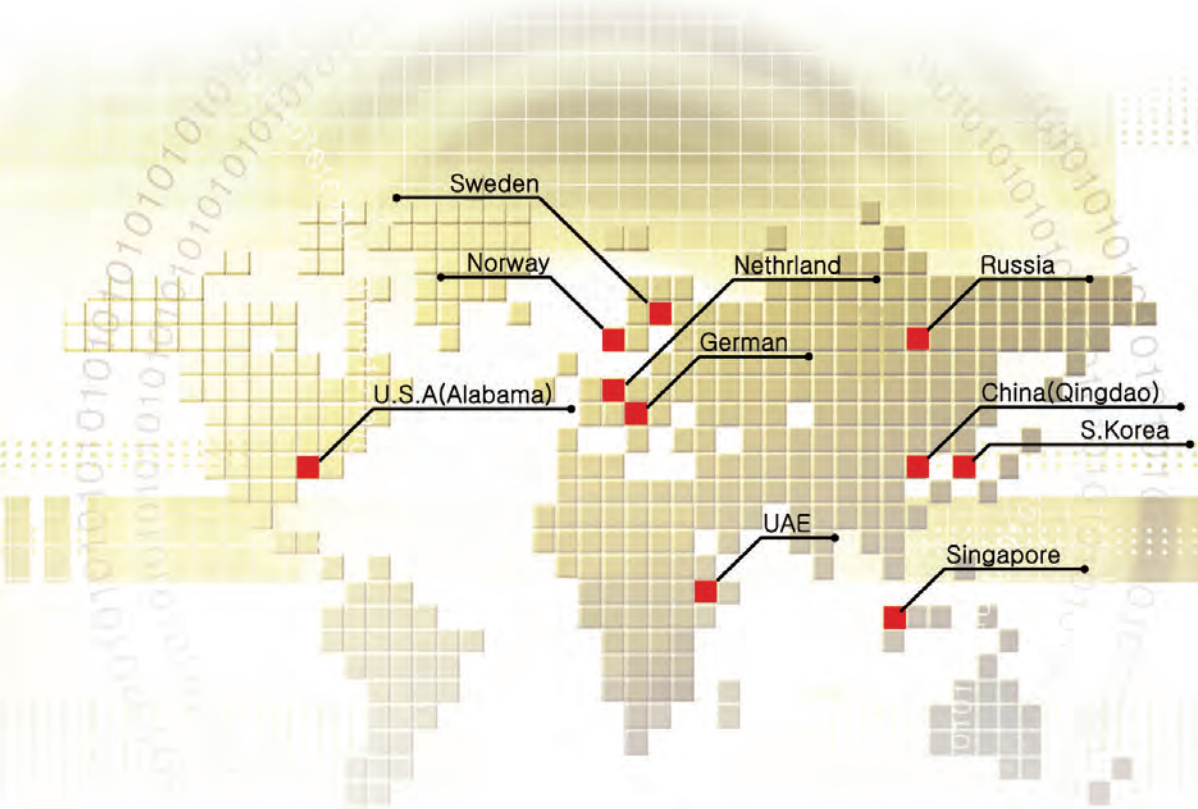
ROV Hatch

- Fitted to lower deck for access of ROV.
- Supplied with coaming, hinges, roller, operating panel and complete hydraulic system.
- The Hatch has two main pieces split hatch where two sub-pieces folded of each fold upwards and can keep the clear size, but without any interference with ROV cage.

▶ HYDRAULIC HATCH

ROV HATCH GENERAL SPECIFICATION		
ITEM	ROV HATCH	HYDRAULIC HATCH
Type	Hinged & Flush	Coaming & Flush
Opening Direction	Bi-fold Upward Open	Upward Open
System	Electro-hydraulically driven	Electro-hydraulically driven
Hatch Open/Close	Hydraulic cylinder	Hydraulic cylinder
Operating Tool	Push button in Local Panel	Push button in Local Panel
Material of Cover, Hatch	AH, DH, etc.	AH, DH, etc.
Size	5200 x 5200mm (to customer's requirement)	to customer's requirement
Enclosure	Weathertight	Watertight / Weathertight

Global Service Network



BY CONTROLS,INC.

• Address : 55, JILLYE-RO, 371 BEON-GIL, JILLYE-MYEON, GIMHAE-SI, GYEONGNAM, KOREA (Post Code : 50872)

• Phone : +82 (55) 345-6110~4 Fax : +82 (55) 345-6115
• URL : http://www.bycontrols.com E-mail : by@bycontrols.com