

Item No. / Qty 1 1
 Tag No. 10-LV-005
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 3 3
 Conn. Size. / Rated CV 140
 Rating / Conn. Type ANSI300 RF
 Body material SCPH2
 Trim material SCS14A STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA3R ---
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543,V8590
 Air supply / Spring range 2.8kgf/cm2 0.8-2.4kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D

Structure
 Input signal 0.2-1.0 kgf/cm2
 Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch

Action
 Solenoid valve
 Action / Power

Booster
 Air lock valve
 Action
 Action

Action

Fluid name/Phase Residue LIQUID
 MAX NOR MIN Unit
 Flow rate 122 m3/h
 Inlet pressure 13.35 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 2.0 kgf/cm2
 Shut-off press. 18.0 kgf/cm2
 Temperature 90 degC
 Density/Gravity(Liq) 0.902 water=1
 Density/Gravity(G,V) MW
 Viscosity 26.2 cP
 Flash %
 Calculated CV 95.65
 Travel 77 %
 Inlet velocity 7.675 m/s
 Predictive SPL 63 dBA

<Remarks>

SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 SV0705-001 Without by-pass cock for HTP positioner
 OLD Production No.: 416-8299-3300, VDP 3"x 3", ANSI 300#RF

<Piping spec.>

Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 2 1
 Tag No. 10-LV-007
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 8 8
 Conn. Size. / Rated CV 820
 Rating / Conn. Type ANSI150 RF
 Body material SCPH2
 Trim material SCS14A STELLITE
 Flow characteristic EQ%
 Bonnet EXT-1 (230 to 450 degC)
 Actuator / Handle HA4R SIDE
 Action AIR TO OPEN
 Gland packing / Grease P6610CH+P6528 PS6
 Gasket V543
 Air supply / Spring range 2.8kgf/cm2 0.8-2.4kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D
 Structure
 Input signal 0.2-1.0 kgf/cm2

<Remarks>
 SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 OLD Production No.: 416-8299-3500, VDP 8"x 8", ANSI 150#RF

Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

Fluid name/Phase LGO LIQUID
 MAX NOR MIN Unit
 Flow rate 149 m3/h
 Inlet pressure 1.22 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 0.51 kgf/cm2
 Shut-off press. 3.0 kgf/cm2
 Temperature 262 degC
 Density/Gravity(Liq) 0.706 water=1
 Density/Gravity(G,V) MW
 Viscosity 0.36 cP
 Flash %
 Calculated CV 204.7
 Travel 51 %
 Inlet velocity 1.318 m/s
 Predictive SPL 60 dBA

<Piping spec.>
 Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 3 1
 Tag No. 12-HV-004
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HTS
 Description Top-Guided Single Seated Control Valves
 Body/Port size (in.) 6 4
 Conn. Size. / Rated CV 175
 Rating / Conn. Type ANSI600 RF
 Body material SCPH21
 Trim material SUS316 STELLITE FACE
 Flow characteristic EQ%
 Bonnet EXT-1 (230 to 450 degC)
 Actuator / Handle VP7 SIDE
 Action AIR TO CLOSE
 Gland packing / Grease P6610CH+P6528 PS6
 Gasket V543
 Air supply / Spring range 5.0kgf/cm2
 Seat leakage CLASS IV
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner VPP03-1
 Structure
 Input signal 0.2-1.0 kgf/cm2

<Remarks>
 SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)
 SV0603-002 Air-fail-Open system with 120L tank
 OLD Production No.: 416-8301-3400, VST 6"x 4", ANSI 600#RF

Regulator KZ03-3B-1C 1
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

Fluid name/Phase SH Steam STEAM
 MAX NOR MIN Unit
 Flow rate 27483 kg/h
 Inlet pressure 43.2 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 42.2 kgf/cm2
 Shut-off press. 54.1 kgf/cm2
 Temperature 400 degC
 Density/Gravity(Liq) water=1 Design Press. kgf/cm2G
 Density/Gravity(G,V) 14.49 Temp. degC
 Viscosity 0.02338 cP Pipe Up stream Down stream
 Flash % Size inch
 Calculated CV 71.9 Sch No.
 Travel 73 % Thickness mm
 Outlet velocity 2.014 Mach
 Predictive SPL 127 dBA

<Piping spec.>
 Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 7 1
 Tag No. 12-PV-006
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 4 4
 Conn. Size. / Rated CV 175
 Rating / Conn. Type ANSI150 RF
 Body material SCPH2
 Trim material SCS14A STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA3R SIDE
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543,V8590
 Air supply / Spring range 1.4kgf/cm2 0.2-1.0kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D
 Structure
 Input signal 0.2-1.0 kgf/cm2

<Remarks>
 SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 SV0212 Cage plug with piston ring
 OLD Production No.: 416-8301-1100, VDP 4"x 4", ANSI 150#RF

<Control valve>

Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

<Accessories>

Fluid name/Phase Fuel Gas GAS
 MAX NOR MIN Unit
 Flow rate 4753 m3/h(N)
 Inlet pressure 3.52 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 0.80 kgf/cm2
 Shut-off press. 4.0 kgf/cm2
 Temperature 45 degC
 Density/Gravity(Liq) kg/m3
 Density/Gravity(G,V) 0.451 kg/m3(N)
 Viscosity cP
 Flash %
 Calculated CV 86.09
 Travel 77 %
 Outlet velocity 0.1229 Mach
 Predictive SPL 78 dBA

<Process data>

<Piping spec.>
 Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 8 1
 Tag No. 12-PV-007
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HLS
 Description Small-Port Single Seated Control Valves
 Body/Port size (in.) 1 Cv=4.0
 Conn. Size. / Rated CV 4.0
 Rating / Conn. Type ANSI300 RF
 Body material SCPH2
 Trim material SUS316 STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA2R SIDE
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543
 Air supply / Spring range 0.2-1.0kgf/cm2
 Seat leakage CLASS IV
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner

<Remarks>
 SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)
 SV0505-001 Minimum flow stopper for actuator
 OLD Production No.: 416-8301-1200, VSL 1"x Cv=4.0, ANSI 300#RF

<Control valve>

<Accessories>

Structure
 Input signal
 Regulator
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

Fluid name/Phase Fuel Oil LIQUID
 MAX NOR MIN Unit
 Flow rate 3.60 m3/h
 Inlet pressure 15.02 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 7.30 kgf/cm2
 Shut-off press. 14.0 kgf/cm2
 Temperature 70 degC
 Density/Gravity(Liq) 0.955 water=1
 Density/Gravity(G,V) kg/m3(A)
 Viscosity cP
 Flash %
 Calculated CV 1.52
 Travel 73 %
 Inlet velocity 2.038 m/s
 Predictive SPL 53 dBA

<Process data>

<Piping spec.>
 Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 9 1
 Tag No. 12-PV-012
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 3 3
 Conn. Size. / Rated CV 140
 Rating / Conn. Type ANSI150 RF
 Body material SCPH2
 Trim material SCS14A STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA3R SIDE
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543,V8590
 Air supply / Spring range 1.4kgf/cm2 0.2-1.0kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D
 Structure
 Input signal 0.2-1.0 kgf/cm2

<Remarks>
 SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 SV0212 Cage plug with piston ring
 OLD Production No.: 416-8301-1400, VDP 3"x 3", ANSI 150#RF

Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

Fluid name/Phase Fuel Gas GAS
 MAX NOR MIN Unit
 Flow rate 4563 m3/h(N)
 Inlet pressure 3.53 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 0.80 kgf/cm2
 Shut-off press. 4.0 kgf/cm2
 Temperature 45 degC
 Density/Gravity(Liq) kg/m3
 Density/Gravity(G,V) 0.451 kg/m3(N)
 Viscosity cP
 Flash %
 Calculated CV 82.52
 Travel 71 %
 Outlet velocity 0.2089 Mach
 Predictive SPL 79 dBA

<Piping spec.>
 Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 10 1
 Tag No. 12-PV-013
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HLS
 Description Small-Port Single Seated Control Valves
 Body/Port size (in.) 1 Cv=4.0
 Conn. Size. / Rated CV 4.0
 Rating / Conn. Type ANSI300 RF
 Body material SCPH2
 Trim material SUS316 STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA2R SIDE
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543
 Air supply / Spring range 0.2-1.0kgf/cm2
 Seat leakage CLASS IV
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard

<Remarks>

SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)
 SV0505-001 Minimum flow stopper for actuator
 OLD Production No.: 416-8301-1500, VSL 1"x Cv=4.0, ANSI 300#RF

<Control valve>

<Accessories>

Positioner
 Structure
 Input signal
 Regulator
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

<Piping spec.>

<Process data>

Fluid name/Phase	Fuel Oil		LIQUID			
	MAX	NOR	MIN	Unit		
Flow rate	3.45			m3/h		
Inlet pressure	15.01			kgf/cm2A		
Outlet pressure				kgf/cm2A		
Differential press.	7.30			kgf/cm2		
Shut-off press.		14.0		kgf/cm2	Strength Calc. Sheet	
Temperature	70			degC	Design	Press. kgf/cm2G
Density/Gravity(Liq)	0.955			water=1	Temp.	degC
Density/Gravity(G,V)				kg/m3(A)	Pipe	Up stream Down stream
Viscosity				cP	Size	inch
Flash				%	Sch No.	
Calculated CV	1.457				Thickness	mm
Travel	72			%		
Inlet velocity	1.953			m/s		
Predictive SPL	53			dBA		

Item No. / Qty 11 1
 Tag No. 12-PV-018
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 3 3
 Conn. Size. / Rated CV 140
 Rating / Conn. Type ANSI150 RF
 Body material SCPH2
 Trim material SCS14A STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA3R SIDE
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543,V8590
 Air supply / Spring range 1.4kgf/cm2 0.2-1.0kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D
 Structure
 Input signal 0.2-1.0 kgf/cm2
 Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action

<Remarks>

SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 SV0212 Cage plug with piston ring
 OLD Production No.: 416-8301-1700, VDP 3"x 3", ANSI 150#RF

<Control valve>

<Accessories>

Fluid name/Phase Fuel Gas GAS
 MAX NOR MIN Unit
 Flow rate 2826 m3/h(N)
 Inlet pressure 3.53 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 0.80 kgf/cm2
 Shut-off press. 4.0 kgf/cm2
 Temperature 45 degC
 Density/Gravity(Liq) kg/m3
 Density/Gravity(G,V) 0.451 kg/m3(N)
 Viscosity cP
 Flash %
 Calculated CV 51.02
 Travel 57 %
 Outlet velocity 0.1294 Mach
 Predictive SPL 75 dBA

<Piping spec.>

Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

<Process data>

Item No. / Qty 13 1
 Tag No. 12-PV-024
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 3 2-1/2
 Conn. Size. / Rated CV 68
 Rating / Conn. Type ANSI150 RF
 Body material SCPH2
 Trim material SCS14A STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA3R SIDE
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543,V8590
 Air supply / Spring range 1.4kgf/cm2 0.2-1.0kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D

<Remarks>

SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 SV0212 Cage plug with piston ring
 OLD Production No.: 416-8301-2000, VDP 3"x 2-1/2", ANSI 150#RF

<Control valve>

Structure
 Input signal 0.2-1.0 kgf/cm2
 Regulator KZ03-2B-XX 1
 Regulator2

<Accessories>

Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

<Process data>

Fluid name/Phase Fuel Gas GAS
 MAX NOR MIN Unit
 Flow rate 2060 m3/h(N)
 Inlet pressure 3.53 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 0.80 kgf/cm2
 Shut-off press. 4.0
 Temperature 45 degC
 Density/Gravity(Liq) kg/m3
 Density/Gravity(G,V) 0.451 kg/m3(N)
 Viscosity cP
 Flash %
 Calculated CV 37.25
 Travel 80 %
 Outlet velocity 0.09432 Mach
 Predictive SPL 73 dBA

<Piping spec.>

Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 15 1
 Tag No. 16-HV-008
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 6 5
 Conn. Size. / Rated CV 275
 Rating / Conn. Type ANSI300 RF
 Body material SCPH2
 Trim material SCS14A ATOMLLOY
 Flow characteristic EQ%
 Bonnet EXT-1 (230 to 450 degC)
 Actuator / Handle HA3D ---
 Action AIR TO CLOSE
 Gland packing / Grease P6610CH+P6528 PS6
 Gasket V543
 Air supply / Spring range 4.0kgf/cm2 0.8-2.4kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 7.5R3/12 7.5R3/12
 Paint Standard
 Positioner HTP-1D
 Structure
 Input signal 0.2-1.0 kgf/cm2
 Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch
 Action
 Solenoid valve JE3HT8320A108 or equivalent 1
 Action / Power En: Control, De: Open DC48V
 Booster
 Air lock valve
 Action
 Action
 Action

<Remarks>

SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 SV0212 Cage plug with piston ring
 SV0705-001 Without by-pass cock for HTP positioner
 OLD Production No.: 416-8352-0900, VDP 6"x 4", ANSI 300#RF

<Accessories>

<Process data>

Fluid name/Phase SM STEAM
 MAX NOR MIN Unit
 Flow rate 21296 kg/h
 Inlet pressure 16.03 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 12.43 kgf/cm2
 Shut-off press. 18.2 kgf/cm2
 Temperature 380 degC
 Density/Gravity(Liq) kg/m3
 Density/Gravity(G,V) 0.8233 kg/m3(N)
 Viscosity 0.02264 cP
 Flash %
 Calculated CV 151.4
 Travel 81 %
 Outlet velocity 0.4348 Mach
 Predictive SPL 108 dBA

<Piping spec.>

Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 16 1
 Tag No. 16-LV-001
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 4 4
 Conn. Size. / Rated CV 220
 Rating / Conn. Type ANSI150 RF
 Body material SCPH2
 Trim material SCS14A STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA3R ---
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543,V8590
 Air supply / Spring range 2.8kgf/cm2 0.8-2.4kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D
 Structure
 Input signal 0.2-1.0 kgf/cm2

<Remarks>
 SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 OLD Production No.: 416-8305-2900, VDP 4"x 4", ANSI 150#RF

Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

Fluid name/Phase Gas Oil LIQUID
 MAX NOR MIN Unit
 Flow rate 96.6 m3/h
 Inlet pressure 3.90 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 0.5 kgf/cm2
 Shut-off press. 4.8 kgf/cm2
 Temperature 70 degC
 Density/Gravity(Liq) 0.875 water=1
 Density/Gravity(G,V) kg/m3(N)
 Viscosity 0.15 cP
 Flash %
 Calculated CV 149.2
 Travel 77 %
 Inlet velocity 3.418 m/s
 Predictive SPL 57 dBA

<Piping spec.>
 Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 18 1
 Tag No. 16-LV-006
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HAV
 Description Venturi Throat Type Angle Control Valves
 Body/Port size (in.) 1 3/4
 Conn. Size. / Rated CV 11
 Rating / Conn. Type ANSI150 RF
 Body material A182F5a or equivalent
 Trim material SUS316 STELLITE
 Flow characteristic EQ%
 Bonnet EXT-1 (200 to 450 degC)
 Actuator / Handle HA2R ---
 Action AIR TO OPEN(Side to Bottom)
 Gland packing / Grease P6610CH+P6528 PS6
 Gasket V543
 Air supply / Spring range 2.8kgf/cm2 0.8-2.4kgf/cm2
 Seat leakage CLASS IV
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D
 Structure
 Input signal 0.2-1.0 kgf/cm2

<Remarks>
 SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)
 SV0705-001 Without by-pass cock for HTP positioner
 OLD Production No.: 416-8305-1510, VAV 1"x 3/4", ANSI 300#RF
 Special Control Valve: with 1/2" ANSI 300#RF Flushing Connection

Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

Fluid name/Phase HC + CAT LIQUID
 MAX NOR MIN Unit
 Flow rate 13.3 m3/h
 Inlet pressure 9.03 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 5.77 kgf/cm2
 Shut-off press. 6.41 kgf/cm2
 Temperature 353 degC
 Density/Gravity(Liq) 0.849 water=1
 Density/Gravity(G,V) kg/m3(N)
 Viscosity 0.7 cP
 Flash Cavitation %
 Calculated CV 6.264
 Travel %
 Inlet velocity 7.53 m/s
 Predictive SPL 59 dBA

<Piping spec.>
 Strength Calc. Sheet
 Design Press. kgf/cm2G
 Temp. degC
 Pipe Up stream Down stream
 Size inch
 Sch No.
 Thickness mm

Item No. / Qty 22 1
 Tag No. 16-LV-019
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HLS
 Description Small-Port Single Seated Control Valves
 Body/Port size (in.) 1 Cv=4.0
 Conn. Size. / Rated CV 4.0
 Rating / Conn. Type ANSI150 RF
 Body material SCPH2
 Trim material MONEL K-500
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA2R ---
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543
 Air supply / Spring range 0.2-1.0kgf/cm2
 Seat leakage CLASS IV
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard

<Remarks>

SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)
 OLD Production No.: 416-8305-3900, VSL 1"x Cv=4.0, ANSI 150#RF

<Control valve>

<Accessories>

Positioner
 Structure
 Input signal
 Regulator
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action

<Piping spec.>

<Process data>

Fluid name/Phase	Sour Water	NOR	LIQUID	Unit			
	MAX		MIN				
Flow rate	4.86			m3/h			
Inlet pressure	14.93			kgf/cm2A			
Outlet pressure				kgf/cm2A			
Differential press.	7.61			kgf/cm2			
Shut-off press.		15.0		kgf/cm2	Strength Calc. Sheet		
Temperature	36			degC	Design	Press.	kgf/cm2G
Density/Gravity(Liq)	0.994			water=1		Temp.	degC
Density/Gravity(G,V)				kg/m3(N)			
Viscosity	0.75			cP	Pipe	Up stream	Down stream
Flash				%		Size	inch
Calculated CV	2.05					Sch No.	
Travel	81			%		Thickness	mm
Inlet velocity	2.752			m/s			
Predictive SPL	55			dBA			

Item No. / Qty 23 1
 Tag No. 16-LV-022
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model HCB
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 4 4
 Conn. Size. / Rated CV 220
 Rating / Conn. Type ANSI300 RF
 Body material SCPH2
 Trim material SCS14A STELLITE
 Flow characteristic EQ%
 Bonnet PLAIN (-17 to 230 degC)
 Actuator / Handle HA2R SIDE
 Action AIR TO OPEN
 Gland packing / Grease NP4519 ---
 Gasket V543,V8590
 Air supply / Spring range 2.8kgf/cm2 0.8-2.4kgf/cm2
 Seat leakage CLASS III
 Color: Body/Diaph./Yoke SILVER 2.5Y8/12 2.5Y8/12
 Paint Standard
 Positioner HTP-1D

<Remarks>

SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 SV0705-001 Without by-pass cock for HTP positioner
 OLD Production No.: 416-8305-2100, VDP 4"x 4", ANSI 150#RF

<Control valve>

Structure
 Input signal 0.2-1.0 kgf/cm2
 Regulator KZ03-2B-XX 1
 Regulator2
 Limit switch

<Accessories>

Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action
 Action

Fluid name/Phase HC LIQUID
 MAX NOR MIN Unit
 Flow rate 118.6 m3/h
 Inlet pressure 16.58 kgf/cm2A
 Outlet pressure kgf/cm2A
 Differential press. 0.68 kgf/cm2
 Shut-off press. 18.7 kgf/cm2
 Temperature 47 degC
 Density/Gravity(Liq) 0.679 water=1 Design Press. kgf/cm2G
 Density/Gravity(G,V) kg/m3(N) Temp. degC
 Viscosity 2.04 cP Pipe Up stream Down stream
 Flash % Size inch
 Calculated CV 138.4 Sch No.
 Travel 73 % Thickness mm
 Inlet velocity 4.197 m/s
 Predictive SPL 58 dBA

<Piping spec.>

<Process data>

Item No. / Qty 24 1
 Tag No. 16-PV-013
 Service

Ref. No. YEU-1136
 Purchaser
 End user M/s. KRPC
 Project
 Unit name

Model **HCB**
 Description Pressure Balanced Cage Type Control Valves
 Body/Port size (in.) 1-1/2 1-1/2
 Conn. Size. / Rated CV 36
 Rating / Conn. Type **ANSI300 RF**
 Body material **SCPH2**
 Trim material **SCS14A STELLITE**
 Flow characteristic **EQ%**
 Bonnet **PLAIN (-17 to 230 degC)**
 Actuator / Handle **HA2R ---**
 Action **AIR TO OPEN**
 Gland packing / Grease **NP4519 ---**
 Gasket **V543,V8590**
 Air supply / Spring range **0.2-1.0kgf/cm2**
 Seat leakage **CLASS III**
 Color: Body/Diaph./Yoke **SILVER 2.5Y8/12 2.5Y8/12**
 Paint **Standard**

<Remarks>

SV0703-105 Indicating unit : "kgf/cm2"
 SV0101-004 Flange facing finish : Serration ANSI B16.5 (Spiral)
 SV0601-001 Air piping Connection: 1/4 NPT
 SV0602-002 Air piping: Vinyl covered copper tube. Joint:Cr plated with vinyl cap
 SV0801-E01 Material certificate in English. Scope: valve body and bonnet
 SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)
 SV0212 Cage plug with piston ring
 OLD Production No.: 416-8305-4500, VDP 1-1/2"x 1-1/2", ANSI 150#RF

<Control valve>

<Accessories>

Positioner
 Structure
 Input signal
 Regulator
 Regulator2
 Limit switch
 Action
 Solenoid valve
 Action / Power
 Booster
 Air lock valve
 Action
 Action

<Piping spec.>

<Process data>

Fluid name/Phase	Acid Gas		GAS					
	MAX	NOR	MIN	Unit				
Flow rate	378			m3/h(N)				
Inlet pressure	2.27			kgf/cm2A				
Outlet pressure				kgf/cm2A				
Differential press.	0.4			kgf/cm2				
Shut-off press.		3.0		kgf/cm2	Strength Calc. Sheet			
Temperature	93			degC	Design	Press.		kgf/cm2G
Density/Gravity(Liq)				water=1		Temp.		degC
Density/Gravity(G,V)	0.995			kg/m3(N)				
Viscosity	0.02			cP	Pipe	Up stream	Down stream	
Flash				%		Size		inch
Calculated CV	18.71					Sch No.		
Travel	67			%		Thickness		mm
Outlet velocity	0.161			Mach				
Predictive SPL	65			dBA				