

# Control Valve Data Sheet

Item No. / Qty	1	1	Ref. No.	EI-1112001						
Tag No.	3TV-1172		Purchaser	SHARQ						
Service			End user	SHARQ						
			Project	Revamp Project						
			Unit name	17 pcs						
<b>&lt;Control valve&gt;</b>	Model	ADVM			<b>&lt;Remarks&gt;</b>					
	Description	Top and Bottom Guided Double-Seat Control Valves			SV0703-105 Indicating unit : "kgf/cm2"					
	Body/Port size	6 in.	6 in.		SV0601-001 Air piping Connection: 1/4 NPT					
	Conn. Size. / Rated CV			450	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)					
	Rating / Conn. Type	ANSI300	RF		SV0402-002 Packing follower with O-ring and felt ring					
	Body material	A216WCB			SV0801-E10 Material certificate in English. Scope: valve body, bonnet, tailpiece(bottom flange), plug, seat ring (cage) and stem					
	Trim material	SUS316 STELLITE								
	Flow characteristic	EQ%								
	Bonnet	PLAIN (-17 to 230 degC)								
	Actuator / Handle	PSA3R	---							
	Action	AIR TO OPEN			SV0802-001 Radio-graphic test(RT) by our standard					
	Gland packing / Grease	P6610CL+P6722	PS6		SV0505-002 Maximum flow stopper for actuator					
	Gasket	V543(PTFE) + V563(PTFE) + T1806GR			PMI Test for Body, Bonnet.					
	Air supply / Spring range	4.0kgf/cm2	0.8-2.4kgf/cm2		Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's requirement with Service Name at 6mm Height Letter					
	Seat leakage	CLASS IV			Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)					
Color: Body/Diaph./Yoke	N7.5	N6.5	N7.5	On the edge of Bonnet Flange & Body Flange, following shall be stamped.						
Paint	Salt(act)/ Heat(body) resist. paint									
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD3B-1DYQ-X			Body Material, Finish, Size, ASME Class Rating.					
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's					
	Input signal	4-20 mA DC			requirement as "Danger - Spring Under Compression"					
	Regulator	KZ03-2B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.					
	Regulator2				SV0021 Special paint					
	Limit switch				Salt(act)/ Heat(body) resist. paint					
	Action				HART AVP SP No.5					
	Solenoid valve				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)					
	Action / Power									
	Booster									
	Air lock valve									
	Action									
	Action									
	Action									
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	SCM		LIQUID		<b>&lt;Piping spec.&gt;</b>			
		MAX	NOR	MIN	Unit					
Flow rate		91600	64100	36600	kg/h					
Inlet pressure		15.09	15.09	15.09	kgf/cm2G					
Outlet pressure					kgf/cm2G					
Differential press.		0.5099	0.5099	0.5099	kgf/cm2					
Shut-off press.		17.5			kgf/cm2	Strength Calc. Sheet				
Temperature		200	200	200	degC					
Density/Gravity(Liq)		910.2	910.2	910.2	kg/m3	Design	Press.	17.5	kgf/cm2G	
Density/Gravity(G,V)					MW		Temp.	225	degC	
Viscosity		0.138	0.138	0.138	cP	Pipe	Up stream	Down stream		
Flash		Flash	Flash	Flash	%		Size	8 in.	8 in.	inch
Calculated CV		157.8	110.1	62.77			Sch No.	40	40	
Travel		62	55	43	%		Thickness	8.2	8.2	mm
Inlet velocity		1.583	1.108	0.6324	m/s					
Predictive SPL	60	58	56	dBA	<b>Azbil Corporation</b>					

# Control Valve Data Sheet

Item No. / Qty	2	1	Ref. No.	EI-1112001			
Tag No.	3FV-1414		Purchaser	SHARQ			
Service			End user	SHARQ			
			Project	Revamp Project			
			Unit name	17 pcs			
<b>&lt;Control valve&gt;</b>	Model	HAV			<b>&lt;Remarks&gt;</b>		
	Description	Venturi Throat Type Angle Control Valves			SV0703-105 Indicating unit : "kgf/cm2"		
	Body/Port size	8 in.	6 in.		SV0601-001 Air piping Connection: 1/4 NPT		
	Conn. Size. / Rated CV			450	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)		
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)		
	Body material	A216WCB			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem		
	Trim material	SUS440C			SV0804 Magnetic-particle test(MT)		
	Flow characteristic	EQ%			SV0803-001 Liquid penetrant test(PT) by our standard		
	Bonnet	EXT-1 (200 to 450 degC)			SV0802-001 Radio-graphic test(RT) by our standard		
	Actuator / Handle	DAP1500X	SIDE (HYD)		SV0505-002 Maximum flow stopper for actuator		
	Action	AIR TO OPEN(Side to Bottom)			PMI Test for Body, Bonnet.		
	Gland packing / Grease	P6610CH+P6528	PS6		SV0006-003 Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's reQUIREment.)		
	Gasket	V543			with Service Name at 6mm Height Letter.		
	Air supply / Spring range	5.0kgf/cm2	---		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)		
	Seat leakage	CLASS IV			On the edge of Bonnet Flange & Body Flange, following shall be stamped.		
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5				
Paint	Salt(act)/ Heat(body) resist. paint						
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD5B-1DY5-W			Body Material, Finish, Size, ASME Class Rating.		
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's		
	Input signal	4-20 mA DC			requirement as "Danger - Spring Under Compression"		
	Regulator	KZ03-3B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.		
	Regulator2				SV0021 Special paint		
	Limit switch				Salt(act)/ Heat(body) resist. paint		
	Action				HART AVP SP No.5		
	Solenoid valve				SV0604-003 Air-fail-Close system with 200L tank		
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)		
	Booster				Please confirm the Handwheel Location.		
	Air lock valve						
	Action						
	Action						
	Action						
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>
		MAX	NOR	MIN	Unit		
Flow rate		387339	352126	176063	kg/h		
Inlet pressure		4.946	4.964	5.026	kgf/cm2G		
Outlet pressure					kgf/cm2G		
Differential press.		2.465	2.483	2.549	kgf/cm2		
Shut-off press.		20			kgf/cm2	Strength Calc. Sheet	
Temperature		121.8	121.8	121.8	degC	Design	Press. 20 kgf/cm2G
Density/Gravity(Liq)		943.6	943.6	943.6	kg/m3	Temp.	220 degC
Density/Gravity(G,V)					MW		
Viscosity		0.226	0.226	0.226	cP	Pipe	Up stream Down stream
Flash		Cavitation	Cavitation	Cavitation	%	Size	10 in. 10 in. inch
Calculated CV		313.2	282.2	142			
Travel		78	73	55	%	Sch No.	40 40
Inlet velocity		3.631	3.301	1.651	m/s	Thickness	9.3 9.3 mm
Predictive SPL	81	81	80	dBA	<b>Azbil Corporation</b>		

# Control Valve Data Sheet

Item No. / Qty	3	1	Ref. No.	EI-1112001		
Tag No.	3FV-1449		Purchaser	SHARQ		
Service			End user	SHARQ		
			Project	Revamp Project		
			Unit name	17 pcs		
<b>&lt;Control valve&gt;</b>	Model		HTS		<b>&lt;Remarks&gt;</b>	
	Description		Top-Guided Single Seated Control Valves		SV0703-105 Indicating unit : "kgf/cm2"	
	Body/Port size		1-1/2 in.	1-1/4 in.	SV0601-001 Air piping Connection: 1/4 NPT	
	Conn. Size. / Rated CV				SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)	
	Rating / Conn. Type		ANSI300	RF	SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)	
	Body material		A216WCB		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
	Trim material		SUS316 STELLITE		SV0804 Magnetic-particle test(MT)	
	Flow characteristic		EQ%		SV0803-001 Liquid penetrant test(PT) by our standard	
	Bonnet		EXT-1 (230 to 450 degC)		SV0802-001 Radio-graphic test(RT) by our standard	
	Actuator / Handle		HA3R	---	SV0505-002 Maximum flow stopper for actuator	
	Action		AIR TO OPEN		PMI Test for Body, Bonnet.	
	Gland packing / Grease		P6610CH+P6528	PS6	Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's	
	Gasket		V543		requirement with Service Name at 6mm Height Letter	
	Air supply / Spring range		2.8kgf/cm2	0.8-2.4kgf/cm2	Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)	
	Seat leakage		CLASS IV		On the edge of Bonnet Flange & Body Flange, following shall be stamped.	
Color: Body/Diaph./Yoke		N7.5	N6.0	N7.5		
Paint		Salt(act)/ Heat(body) resist. paint				
<b>&lt;Accessories&gt;</b>	Positioner		AVP302-CSD2B-1DYT-X		Body Material, Finish, Size, ASME Class Rating.	
	Structure		ATEX Flameproof, 1/4 NPT, M20x1.5		SS Tag plate attached on Diaphragm case (Plate size and description are Customer's	
	Input signal		4-20 mA DC		requirement as "Danger - Spring Under Compression"	
	Regulator		KZ03-2B-XX	1	For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.	
	Regulator2				SV0021 Special paint	
	Limit switch				Salt(act)/ Heat(body) resist. paint	
	Action				HART AVP SP No.5	
	Solenoid valve				SV0507 Actuator yoke material: SCPH2 or WCB	
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
	Booster					
	Air lock valve					
	Action					
	Action					
	Action					
	<b>&lt;Process data&gt;</b>	Fluid name/Phase		SC		LIQUID
		MAX	NOR	MIN	Unit	
Flow rate		15000	12514	6257	kg/h	
Inlet pressure		23.45	23.82	24.44	kgf/cm2G	
Outlet pressure					kgf/cm2G	
Differential press.		3.581	3.972	4.692	kgf/cm2	
Shut-off press.		36			kgf/cm2	
Temperature		134	134	134	degC	
Density/Gravity(Liq)		935.2	935.2	935.2	kg/m3	
Density/Gravity(G,V)					MW	
Viscosity		0.205	0.205	0.205	cP	
Flash					%	
Calculated CV		9.632	7.611	3.49		
Travel		83	76	53	%	
Inlet velocity		4.036	3.367	1.684	m/s	
Predictive SPL		60	60	58	dBA	
<b>&lt;Piping spec.&gt;</b>						
				Strength Calc. Sheet		
				36	kgf/cm2G	
				255	degC	
				Up stream		Down stream
				2 in.	2 in.	
				inch		
				40	40	
				mm		
				3.9	3.9	
				mm		
<b>Azbil Corporation</b>						

# Control Valve Data Sheet

Item No. / Qty	4	1	Ref. No.	EI-1112001					
Tag No.	3FV-1451		Purchaser	SHARQ					
Service			End user	SHARQ					
			Project	Revamp Project					
			Unit name	17 pcs					
<b>&lt;Control valve&gt;</b>	Model	HTS			<b>&lt;Remarks&gt;</b>				
	Description	Top-Guided Single Seated Control Valves			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	1-1/2 in.	1 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			10	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A216WCB			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE			SV0804 Magnetic-particle test(MT)				
	Flow characteristic	EQ%			SV0803-001 Liquid penetrant test(PT) by our standard				
	Bonnet	EXT-1 (230 to 450 degC)			SV0802-001 Radio-graphic test(RT) by our standard				
	Actuator / Handle	HA3R	---		SV0505-002 Maximum flow stopper for actuator				
	Action	AIR TO OPEN			PMI Test for Body, Bonnet.				
	Gland packing / Grease	P6610CH+P6528	PS6		Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's				
	Gasket	V543			requirement with Service Name at 6mm Height Letter				
	Air supply / Spring range	2.8kgf/cm2	0.8-2.4kgf/cm2		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
	Seat leakage	CLASS IV			On the edge of Bonnet Flange & Body Flange, following shall be stamped.				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5						
Paint	Salt(act)/ Heat(body) resist. paint								
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD2B-1DYT-X			Body Material, Finish, Size, ASME Class Rating.				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's				
	Input signal	4-20 mA DC			requirement as "Danger - Spring Under Compression"				
	Regulator	KZ03-2B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.				
	Regulator2				SV0021 Special paint				
	Limit switch				Salt(act)/ Heat(body) resist. paint				
	Action				HART AVP SP No.5				
	Solenoid valve				SV0507 Actuator yoke material: SCPH2 or WCB				
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Booster				1-1/2" I/O 1" for VELOCITY				
	Air lock valve								
	Action								
	Action								
	Action								
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	SC		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX	NOR	MIN	Unit				
Flow rate		14400	12050	6025	kg/h				
Inlet pressure		23.47	23.82	24.44	kgf/cm2G				
Outlet pressure					kgf/cm2G				
Differential press.		8.315	8.681	9.388	kgf/cm2				
Shut-off press.		36			kgf/cm2	Strength Calc. Sheet			
Temperature		134	134	134	degC	Design	Press.	36	kgf/cm2G
Density/Gravity(Liq)		935.2	935.2	935.2	kg/m3		Temp.	245	degC
Density/Gravity(G,V)					MW				
Viscosity		0.205	0.205	0.205	cP	Pipe	Up stream	Down stream	
Flash					%	Size	2 in.	2 in.	inch
Calculated CV		6.044	4.946	2.375		Sch No.	40	40	
Travel		85	79	57	%	Thickness	3.9	3.9	mm
Inlet velocity		3.875	3.242	1.621	m/s				
Predictive SPL	64	63	61	dBA	<b>Azbil Corporation</b>				

# Control Valve Data Sheet

Item No. / Qty	5	1	Ref. No.	EI-1112001		
Tag No.	3FV-1453		Purchaser	SHARQ		
Service			End user	SHARQ		
			Project	Revamp Project		
			Unit name	17 pcs		
<b>&lt;Control valve&gt;</b>	Model		HTS		<b>&lt;Remarks&gt;</b>	
	Description		Top-Guided Single Seated Control Valves		SV0703-105 Indicating unit : "kgf/cm2"	
	Body/Port size		1-1/2 in.	1 in.	SV0601-001 Air piping Connection: 1/4 NPT	
	Conn. Size. / Rated CV				SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)	
	Rating / Conn. Type		ANSI300	RF	SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)	
	Body material		A216WCB		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
	Trim material		SUS316 STELLITE		SV0804 Magnetic-particle test(MT)	
	Flow characteristic		EQ%		SV0803-001 Liquid penetrant test(PT) by our standard	
	Bonnet		PLAIN (-17 to 230 degC)		SV0802-001 Radio-graphic test(RT) by our standard	
	Actuator / Handle		HA2R	---	SV0505-002 Maximum flow stopper for actuator	
	Action		AIR TO OPEN		PMI Test for Body, Bonnet.	
	Gland packing / Grease		P4519	---	Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's	
	Gasket		V543		requirement with Service Name at 6mm Height Letter	
	Air supply / Spring range		2.8kgf/cm2	0.8-2.4kgf/cm2	Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)	
	Seat leakage		CLASS IV		On the edge of Bonnet Flange & Body Flange, following shall be stamped.	
Color: Body/Diaph./Yoke		N7.5	N6.0	N7.5		
Paint		Salt(act)/ Heat(body) resist. paint				
<b>&lt;Accessories&gt;</b>	Positioner		AVP302-CSD2B-1DYT-X		Body Material, Finish, Size, ASME Class Rating.	
	Structure		ATEX Flameproof, 1/4 NPT, M20x1.5		SS Tag plate attached on Diaphragm case (Plate size and description are Customer's	
	Input signal		4-20 mA DC		requirement as "Danger - Spring Under Compression"	
	Regulator		KZ03-2B-XX	1	For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.	
	Regulator2				SV0021 Special paint	
	Limit switch				Salt(act)/ Heat(body) resist. paint	
	Action				HART AVP SP No.5	
	Solenoid valve				SV0507 Actuator yoke material: SCPH2 or WCB	
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
	Booster				1-1/2" I/O 1" for VELOCITY	
	Air lock valve					
	Action					
	Action					
	Action					
	<b>&lt;Process data&gt;</b>	Fluid name/Phase		SC		LIQUID
		MAX	NOR	MIN	Unit	
Flow rate		14000	11679	5840	kg/h	
Inlet pressure		23.5	23.85	24.44	kgf/cm2G	
Outlet pressure					kgf/cm2G	
Differential press.		12.25	12.61	13.3	kgf/cm2	
Shut-off press.		36			kgf/cm2	
Temperature		134	134	134	degC	
Density/Gravity(Liq)		935.2	935.2	935.2	kg/m3	
Density/Gravity(G,V)					MW	
Viscosity		0.205	0.205	0.205	cP	
Flash					%	
Calculated CV		4.837	3.975	1.934		
Travel		78	72	51	%	
Inlet velocity		3.767	3.142	1.571	m/s	
Predictive SPL		65	65	62	dBA	
				<b>&lt;Piping spec.&gt;</b>		
				Strength Calc. Sheet		
		Design	Press.	36	kgf/cm2G	
				Temp.	220 degC	
		Pipe		Up stream	Down stream	
		Size		2 in.	2 in.	
		Sch No.		40	40	
		Thickness		3.9	3.9	
					mm	
<b>Azbil Corporation</b>						

# Control Valve Data Sheet

Item No. / Qty	6	1	Ref. No.	EI-1112001			
Tag No.	3FV-1454		Purchaser	SHARQ			
Service			End user	SHARQ			
			Project	Revamp Project			
			Unit name	17 pcs			
<b>&lt;Control valve&gt;</b>	Model		VST		<b>&lt;Remarks&gt;</b>		
	Description		Top Guiding Single Seated Control Valves (Rating; ANSI 6		SV0703-105 Indicating unit : "kgf/cm2"		
	Body/Port size		12 in.	8 in.	SV0601-001 Air piping Connection: 1/4 NPT		
	Conn. Size. / Rated CV				SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)		
	Rating / Conn. Type		ANSI300	RF	SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)		
	Body material		A216WCB		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem		
	Trim material		SUS316 STELLITE		SV0804 Magnetic-particle test(MT)		
	Flow characteristic		EQ%		SV0803-001 Liquid penetrant test(PT) by our standard		
	Bonnet		FIN (200 to 450 degC)		SV0802-001 Radio-graphic test(RT) by our standard		
	Actuator / Handle		DAP1500	---	SV0505-002 Maximum flow stopper for actuator		
	Action		AIR TO OPEN		PMI Test for Body, Bonnet.		
	Gland packing / Grease		P6610CH+P6528	PS6	SV0006-003 Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's reQUIREment.)		
	Gasket		V543		with Service Name at 6mm Height Letter		
	Air supply / Spring range		5.0kgf/cm2	---	Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)		
	Seat leakage		CLASS IV		On the edge of Bonnet Flange & Body Flange, following shall be stamped.		
Color: Body/Diaph./Yoke		N7.5	N6.0	N7.5			
Paint		Salt(act)/ Heat(body) resist. paint					
<b>&lt;Accessories&gt;</b>	Positioner		AVP302-CSD5B-1DY5-W		Body Material, Finish, Size, ASME Class Rating.		
	Structure		ATEX Flameproof, 1/4 NPT, M20x1.5		SS Tag plate attached on Diaphragm case (Plate size and description are Customer's		
	Input signal		4-20 mA DC		requirement as "Danger - Spring Under Compression"		
	Regulator		KZ03-3B-XX	1	For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.		
	Regulator2				SV0021 Special paint		
	Limit switch				Salt(act)/ Heat(body) resist. paint		
	Action				HART AVP SP No.5		
	Solenoid valve				SV0604-003 Air-fail-Close system with 200L tank		
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)		
	Booster				TRIM : SUS316STELLITE I/O SUS440C		
	Air lock valve						
	Action						
	Action						
	Action						
	<b>&lt;Process data&gt;</b>	Fluid name/Phase		ETHYLENE GLYCOL/WATER		<b>&lt;Piping spec.&gt;</b>	
		LIQUID					
		MAX	NOR	MIN	Unit		
Flow rate		261700	218144	109072	kg/h		
Inlet pressure		11.21	11.22	11.22	kgf/cm2G		
Outlet pressure					kgf/cm2G		
Differential press.		7.104	7.11	7.115	kgf/cm2		
Shut-off press.		15			kgf/cm2		
Temperature		193.4	193.4	193.4	degC		
Density/Gravity(Liq)		886.6	886.6	886.6	kg/m3		
Density/Gravity(G,V)					MW		
Viscosity		0.169	0.169	0.169	cP		
Flash		Flash	Flash	Flash	%		
Calculated CV		310.4	256.4	126.1			
Travel		62	56	39	%		
Inlet velocity		1.161	0.9674	0.4837	m/s		
Predictive SPL		74	73	70	dBA		
				Strength Calc. Sheet			
				Design	Press.	15	
						kgf/cm2G	
						Temp.	
						220	
						degC	
				Pipe			
				Up stream	Down stream		
				Size	14 in.	14 in.	
				Sch No.	40	40	
				Thickness	11.3	11.3	
						mm	
<b>Azbil Corporation</b>							

# Control Valve Data Sheet

Item No. / Qty	7	1	Ref. No.	EI-1112001					
Tag No.	3FV-1455		Purchaser	SHARQ					
Service			End user	SHARQ					
			Project	Revamp Project					
			Unit name	17 pcs					
<b>&lt;Control valve&gt;</b>	Model	HTS			<b>&lt;Remarks&gt;</b>				
	Description	Top-Guided Single Seated Control Valves			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	1-1/2 in.	1 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			10	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A216WCB			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE			SV0804 Magnetic-particle test(MT)				
	Flow characteristic	EQ%			SV0803-001 Liquid penetrant test(PT) by our standard				
	Bonnet	PLAIN (-17 to 230 degC)			SV0802-001 Radio-graphic test(RT) by our standard				
	Actuator / Handle	HA3R	---		SV0505-002 Maximum flow stopper for actuator				
	Action	AIR TO OPEN			PMI Test for Body, Bonnet.				
	Gland packing / Grease	P6610CH+P6528	PS6		Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's				
	Gasket	V543			requirement with Service Name at 6mm Height Letter				
	Air supply / Spring range	2.8kgf/cm2	0.8-2.4kgf/cm2		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
	Seat leakage	CLASS IV			On the edge of Bonnet Flange & Body Flange, following shall be stamped.				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5						
Paint	Salt(act)/ Heat(body) resist. paint								
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD2B-1DYT-X			Body Material, Finish, Size, ASME Class Rating.				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's				
	Input signal	4-20 mA DC			requirement as "Danger - Spring Under Compression"				
	Regulator	KZ03-2B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.				
	Regulator2				SV0021 Special paint				
	Limit switch				Salt(act)/ Heat(body) resist. paint				
	Action				HART AVP SP No.5				
	Solenoid valve				SV0507 Actuator yoke material: SCPH2 or WCB				
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Booster				1-1/2" I/O 1" for VELOCITY				
	Air lock valve								
	Action								
	Action								
	Action								
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	SC		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX	NOR	MIN	Unit				
Flow rate		13100	10896	5448	kg/h				
Inlet pressure		23.51	23.86	24.45	kgf/cm2G				
Outlet pressure					kgf/cm2G				
Differential press.		19.47	19.83	20.5	kgf/cm2				
Shut-off press.		36			kgf/cm2	Strength Calc. Sheet			
Temperature		134	134	134	degC	Design	Press.	36	kgf/cm2G
Density/Gravity(Liq)		935.2	935.2	935.2	kg/m3		Temp.	205	degC
Density/Gravity(G,V)					MW				
Viscosity		0.205	0.205	0.205	cP	Pipe	Up stream	Down stream	
Flash		Cavitation	Cavitation	Cavitation	%	Size	2 in.	2 in.	inch
Calculated CV		3.692	3.031	1.469		Sch No.	40	40	
Travel		70	64	45	%	Thickness	3.9	3.9	mm
Inlet velocity		3.525	2.932	1.466	m/s				
Predictive SPL	73	72	67	dBA	<b>Azbil Corporation</b>				

# Control Valve Data Sheet

Item No. / Qty	8	1	Ref. No.	EI-1112001		
Tag No.	3FV-1458		Purchaser	SHARQ		
Service			End user	SHARQ		
			Project	Revamp Project		
			Unit name	17 pcs		
<b>&lt;Control valve&gt;</b>	Model		HTS		<b>&lt;Remarks&gt;</b>	
	Description		Top-Guided Single Seated Control Valves		SV0703-105 Indicating unit : "kgf/cm2"	
	Body/Port size		1-1/2 in.	1-1/4 in.	SV0601-001 Air piping Connection: 1/4 NPT	
	Conn. Size. / Rated CV				SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)	
	Rating / Conn. Type		ANSI300	RF	SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)	
	Body material		A216WCB		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
	Trim material		SUS316 STELLITE		SV0804 Magnetic-particle test(MT)	
	Flow characteristic		EQ%		SV0803-001 Liquid penetrant test(PT) by our standard	
	Bonnet		PLAIN (-17 to 230 degC)		SV0802-001 Radio-graphic test(RT) by our standard	
	Actuator / Handle		HA2D	---	SV0505-002 Maximum flow stopper for actuator	
	Action		AIR TO CLOSE		PMI Test for Body, Bonnet.	
	Gland packing / Grease		P4519	PS6	Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's	
	Gasket		V543		requirement with Service Name at 6mm Height Letter	
	Air supply / Spring range		4.0kgf/cm2	0.8-2.4kgf/cm2		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)
	Seat leakage		CLASS IV		On the edge of Bonnet Flange & Body Flange, following shall be stamped.	
Color: Body/Diaph./Yoke		N7.5	N6.0	N7.5		
Paint		Salt(act)/ Heat(body) resist. paint				
<b>&lt;Accessories&gt;</b>	Positioner		AVP302-CSD3B-1DYT-X		Body Material, Finish, Size, ASME Class Rating.	
	Structure		ATEX Flameproof, 1/4 NPT, M20x1.5		SS Tag plate attached on Diaphragm case (Plate size and description are Customer's	
	Input signal		4-20 mA DC		requirement as "Danger - Spring Under Compression"	
	Regulator		KZ03-2B-XX	1	For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.	
	Regulator2				SV0021 Special paint	
	Limit switch				Salt(act)/ Heat(body) resist. paint	
	Action				HART AVP SP No.5	
	Solenoid valve				SV0507 Actuator yoke material: SCPH2 or WCB	
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
	Booster				1-1/2" I/O 1" for VELOCITY	
	Air lock valve					
	Action					
	Action					
	Action					
	<b>&lt;Process data&gt;</b>	Fluid name/Phase		PROCESS CONDENSATE (WAT LIQUID)		<b>&lt;Piping spec.&gt;</b>
		MAX	NOR	MIN	Unit	
Flow rate		20900	13000	10500	kg/h	
Inlet pressure		23.15	24.78	25.19	kgf/cm2G	
Outlet pressure					kgf/cm2G	
Differential press.		16.01	18.25	20.09	kgf/cm2	
Shut-off press.		36			kgf/cm2	
Temperature		134	134	134	degC	
Density/Gravity(Liq)		935.2	935.2	935.2	kg/m3	
Density/Gravity(G,V)					MW	
Viscosity		0.205	0.205	0.205	cP	
Flash					%	
Calculated CV		6.305	3.673	2.828		
Travel		70	54	48	%	
Inlet velocity		5.624	3.498	2.825	m/s	
Predictive SPL		67	65	65	dBA	
				<b>Strength Calc. Sheet</b>		
		Design	Press.	36	kgf/cm2G	
				Temp.	170 degC	
		Pipe		Up stream	Down stream	
		Size	1-1/2 in.	1-1/2 in.	inch	
		Sch No.	40	40		
		Thickness	3.7	3.7	mm	
<b>Azbil Corporation</b>						

# Control Valve Data Sheet

Item No. / Qty	9	1	Ref. No.	EI-1112001					
Tag No.	3LV-1401		Purchaser	SHARQ					
Service			End user	SHARQ					
			Project	Revamp Project					
			Unit name	17 pcs					
<b>&lt;Control valve&gt;</b>	Model	VST			<b>&lt;Remarks&gt;</b>				
	Description	Top Guiding Single Seated Control Valves (Rating; ANSI 6			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	14 in.	10 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			1000	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A216WCB			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE			SV0804 Magnetic-particle test(MT)				
	Flow characteristic	EQ%			SV0803-001 Liquid penetrant test(PT) by our standard				
	Bonnet	FIN (200 to 450 degC)			SV0802-001 Radio-graphic test(RT) by our standard				
	Actuator / Handle	DAP1000X	SIDE (HYD)		SV0505-002 Maximum flow stopper for actuator				
	Action	AIR TO OPEN			PMI Test for Body, Bonnet.				
	Gland packing / Grease	P6610CH+P6528	PS6		Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's				
	Gasket	V543			requirement.) with Service Name at 6mm Height Letter				
	Air supply / Spring range	5.0kgf/cm2	---		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
	Seat leakage	CLASS IV			On the edge of Bonnet Flange & Body Flange, following shall be stamped.				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5						
Paint	Salt(act)/ Heat(body) resist. paint								
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD5B-1DY4-W			Body Material, Finish, Size, ASME Class Rating.				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's				
	Input signal	4-20 mADC			requirement as "Danger - Spring Under Compression"				
	Regulator	KZ03-3B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.				
	Regulator2				SV0021 Special paint				
	Limit switch				Salt(act)/ Heat(body) resist. paint				
	Action				HART AVP SP No.5				
	Solenoid valve				SV0604-003 Air-fail-Close system with 200L tank				
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Booster								
	Air lock valve								
	Action								
	Action								
	Action								
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	ETHYLENE GLYCOL/WATER		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX	NOR	MIN	Unit				
Flow rate		401500	334557	167278	kg/h				
Inlet pressure		15.23	15.23	15.23	kgf/cm2G				
Outlet pressure					kgf/cm2G				
Differential press.		3.759	3.762	3.765	kgf/cm2				
Shut-off press.		20.5			kgf/cm2	Strength Calc. Sheet			
Temperature		204.4	204.4	204.4	degC	Design	Press.	20.5	kgf/cm2G
Density/Gravity(Liq)		868.6	868.6	868.6	kg/m3		Temp.	245	degC
Density/Gravity(G,V)					MW				
Viscosity		0.146	0.146	0.146	cP	Pipe	Up stream	Down stream	
Flash		Flash	Flash	Flash	%	Size	18 in.	18 in.	inch
Calculated CV		395.7	328.3	161.3		Sch No.	40	40	
Travel					%	Thickness	14.3	14.3	mm
Inlet velocity		1.335	1.113	0.5563	m/s				
Predictive SPL	77	76	74	dBA	<b>Azbil Corporation</b>				



# Control Valve Data Sheet

Item No. / Qty	10	1	Ref. No.	EI-1112001					
Tag No.	3LV-1419		Purchaser	SHARQ					
Service			End user	SHARQ					
			Project	Revamp Project					
			Unit name	17 pcs					
<b>&lt;Control valve&gt;</b>	Model	HTS			<b>&lt;Remarks&gt;</b>				
	Description	Top-Guided Single Seated Control Valves			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	6 in.	4 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			175	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A216WCB			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE			SV0804 Magnetic-particle test(MT)				
	Flow characteristic	EQ%			SV0803-001 Liquid penetrant test(PT) by our standard				
	Bonnet	EXT-1 (230 to 450 degC)			SV0802-001 Radio-graphic test(RT) by our standard				
	Actuator / Handle	PSA6R	SIDE		SV0210 High shut-off pressure trim for Model HTS				
	Action	AIR TO OPEN			PMI Test for Body, Bonnet.				
	Gland packing / Grease	P6610CH+P6528	PS6		Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's				
	Gasket	V543			requirement with Service Name at 6mm Height Letter				
	Air supply / Spring range	5.0kgf/cm2	2.0-4.0kgf/cm2		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
	Seat leakage	CLASS IV			On the edge of Bonnet Flange & Body Flange, following shall be stamped.				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5						
Paint	Salt(act)/ Heat(body) resist. paint								
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD5B-1DYL-X			Body Material, Finish, Size, ASME Class Rating.				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's				
	Input signal	4-20 mA DC			requirement as "Danger - Spring Under Compression"				
	Regulator	KZ03-3B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.				
	Regulator2				SV0021 Special paint				
	Limit switch				Salt(act)/ Heat(body) resist. paint				
	Action				HART AVP SP No.5				
	Solenoid valve				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Action / Power								
	Booster								
	Air lock valve								
	Action								
	Action								
	Action								
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX	NOR	MIN	Unit				
Flow rate		115000	95818	47909	kg/h				
Inlet pressure		24.55	24.58	24.68	kgf/cm2G				
Outlet pressure					kgf/cm2G				
Differential press.		7.957	8.056	8.759	kgf/cm2				
Shut-off press.		27.5				Strength Calc. Sheet			
Temperature		224	224	224	degC	Design	Press.	27.5	kgf/cm2G
Density/Gravity(Liq)		837.5	837.5	837.5	kg/m3		Temp.	300	degC
Density/Gravity(G,V)					MW				
Viscosity		0.117	0.117	0.117	cP	Pipe	Up stream	Down stream	
Flash		Flash	Flash	Flash	%	Size	6 in.	6 in.	inch
Calculated CV		85.33	70.47	34.16					
Travel		67	63	49	%	Sch No.	40	40	
Inlet velocity		2.16	1.799	0.8997	m/s	Thickness	7.1	7.1	mm
Predictive SPL	72	72	69	dBA	<b>Azbil Corporation</b>				

# Control Valve Data Sheet

Item No. / Qty	10	1	Ref. No.	EI-1112001					
Tag No.	3LV-1419(Alternative)		Purchaser	SHARQ					
Service			End user	SHARQ					
			Project	Revamp Project					
			Unit name	17 pcs					
<b>&lt;Control valve&gt;</b>	Model	AGVM			<b>&lt;Remarks&gt;</b>				
	Description	Top-Guided Single-Seat Control Valves			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	4 in.	4 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			200	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A216WCB			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE			SV0804 Magnetic-particle test(MT)				
	Flow characteristic	EQ%			SV0803-001 Liquid penetrant test(PT) by our standard				
	Bonnet	EXT-1 (230 to 400 degC)			SV0802-001 Radio-graphic test(RT) by our standard				
	Actuator / Handle	PSA6R	SIDE		PMI Test for Body, Bonnet.				
	Action	AIR TO OPEN			Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's requirement with Service Name at 6mm Height Letter				
	Gland packing / Grease	P6610CL+P6722	PS6		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
	Gasket	V543,V564(MONEL)			On the edge of Bonnet Flange & Body Flange, following shall be stamped.				
	Air supply / Spring range	4.0kgf/cm2	2.0-3.5kgf/cm2		Body Material, Finish, Size, ASME Class Rating.				
	Seat leakage	CLASS IV			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's requirement as "Danger - Spring Under Compression"				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5	For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.					
Paint	Salt(act)/ Heat(body) resist. paint			SV0021 Special paint					
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD3B-1DYL-X			Salt(act)/ Heat(body) resist. paint				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			HART AVP SP No.5				
	Input signal	4-20 mA DC			SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Regulator	KZ03-2B-XX	1						
	Regulator2								
	Limit switch								
	Action								
	Solenoid valve								
	Action / Power								
	Booster								
	Air lock valve								
	Action								
	Action								
Action									
<b>&lt;Process data&gt;</b>	Fluid name/Phase	CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>			
		MAX	NOR	MIN	Unit				
	Flow rate	115000	95818	47909	kg/h				
	Inlet pressure	24.55	24.58	24.68	kgf/cm2G				
	Outlet pressure				kgf/cm2G				
	Differential press.	7.957	8.056	8.759	kgf/cm2				
	Shut-off press.	27.5				kgf/cm2	Strength Calc. Sheet		
	Temperature	224	224	224	degC	Design	Press.	27.5	kgf/cm2G
	Density/Gravity(Liq)	837.5	837.5	837.5	kg/m3		Temp.	300	degC
	Density/Gravity(G,V)				MW				
	Viscosity	0.117	0.117	0.117	cP	Pipe	Up stream	Down stream	
	Flash	Flash	Flash	Flash	%	Size	6 in.	6 in.	inch
	Calculated CV	86.36	71.04	34.13					
	Travel	69	65	50	%	Sch No.	40	40	
	Inlet velocity	4.859	4.048	2.024	m/s	Thickness	7.1	7.1	mm
Predictive SPL	72	72	69	dBA	<b>Azbil Corporation</b>				

# Control Valve Data Sheet

Item No. / Qty	11	1	Ref. No.	EI-1112001				
Tag No.	3LV-1420		Purchaser	SHARQ				
Service			End user	SHARQ				
			Project	Revamp Project				
			Unit name	17 pcs				
<b>&lt;Control valve&gt;</b>	Model		VST		<b>&lt;Remarks&gt;</b>			
	Description		Top Guiding Single Seated Control Valves (Rating; ANSI 6		SV0703-105 Indicating unit : "kgf/cm2"			
	Body/Port size		16 in.	12 in.	SV0601-001 Air piping Connection: 1/4 NPT			
	Conn. Size. / Rated CV				SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)			
	Rating / Conn. Type		ANSI300	RF	SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)			
	Body material		A351CF8M		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem			
	Trim material		SUS316 STELLITE		SV0803-001 Liquid penetrant test(PT) by our standard			
	Flow characteristic		EQ%		SV0802-001 Radio-graphic test(RT) by our standard			
	Bonnet		FIN (200 to 450 degC)		SV0505-002 Maximum flow stopper for actuator			
	Actuator / Handle		DAP2500X	SIDE (HYD)	PMI Test for Body, Bonnet.			
	Action		AIR TO OPEN		SV0006-003 Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's reQuirement.)			
	Gland packing / Grease		P6610CH+P6528	PS6	with Service Name at 6mm Height Letter			
	Gasket		V543		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)			
	Air supply / Spring range		5.0kgf/cm2	---	On the edge of Bonnet Flange & Body Flange, following shall be stamped.			
	Seat leakage		CLASS IV		Body Material, Finish, Size, ASME Class Rating.			
Color: Body/Diaph./Yoke		N7.5	N6.0	N7.5				
Paint		Salt(act)/ Heat(body) resist. paint						
<b>&lt;Accessories&gt;</b>	Positioner		AVP302-CSD5B-1DLE-W		SS Tag plate attached on Diaphragm case (Plate size and description are Customer's			
	Structure		ATEX Flameproof, 1/4 NPT, M20x1.5		requirement as "Danger - Spring Under Compression"			
	Input signal		4-20 mADC		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.			
	Regulator		KZ03-3B-XX	1	SV0021 Special paint			
	Regulator2				Salt(act)/ Heat(body) resist. paint			
	Limit switch				HART AVP SP No.5			
	Action				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)			
	Solenoid valve							
	Action / Power							
	Booster							
	Air lock valve							
	Action							
	Action							
	Action							
	<b>&lt;Process data&gt;</b>	Fluid name/Phase		ETHYLENE GLYCOL/WATER		<b>&lt;Piping spec.&gt;</b>		
		LIQUID						
		MAX	NOR	MIN	Unit			
Flow rate		534200	445210	222605	kg/h			
Inlet pressure		19.93	19.93	19.93	kgf/cm2G			
Outlet pressure					kgf/cm2G			
Differential press.		4.579	4.586	4.6	kgf/cm2			
Shut-off press.		23.5			kgf/cm2			
Temperature		216.2	216.2	216.2	degC			
Density/Gravity(Liq)		852.0	852.0	852.0	kg/m3			
Density/Gravity(G,V)					MW			
Viscosity		0.133	0.133	0.133	cP			
Flash		Flash	Flash	Flash	%			
Calculated CV		448.1	372	182.5				
Travel		49	45	30				
Inlet velocity		1.387	1.156	0.5778				
Predictive SPL		80	79	76				
				Strength Calc. Sheet				
				Design	Press.	23.5	kgf/cm2G	
						Temp.	255	degC
				Pipe		Up stream	Down stream	
				Size	20 in.	20 in.	inch	
				Sch No.	40	40		
				Thickness	15.1	15.1	mm	
<b>Azbil Corporation</b>								

# Control Valve Data Sheet

Item No. / Qty	11	1	Ref. No.	EI-1112001					
Tag No.	3LV-1420(Alternative)			Purchaser	SHARQ				
Service				End user	SHARQ				
				Project	Revamp Project				
				Unit name	17 pcs				
<b>&lt;Control valve&gt;</b>	Model	VST			<b>&lt;Remarks&gt;</b>				
	Description	Top Guiding Single Seated Control Valves (Rating; ANSI 6			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	12 in.	8 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			640	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A351CF8M			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE			SV0803-001 Liquid penetrant test(PT) by our standard				
	Flow characteristic	EQ%			SV0802-001 Radio-graphic test(RT) by our standard				
	Bonnet	FIN (200 to 450 degC)			SV0505-002 Maximum flow stopper for actuator				
	Actuator / Handle	DAP1500	SIDE (HYD)		PMI Test for Body, Bonnet.				
	Action	AIR TO OPEN			SV0006-003 Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's reQUIREment.)				
	Gland packing / Grease	P6610CH+P6528	PS6		with Service Name at 6mm Height Letter				
	Gasket	V543			Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
	Air supply / Spring range	5.0kgf/cm2	---		On the edge of Bonnet Flange & Body Flange, following shall be stamped.				
	Seat leakage	CLASS IV			Body Material, Finish, Size, ASME Class Rating.				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5	SS Tag plate attached on Diaphragm case (Plate size and description are Customer's requirement as "Danger - Spring Under Compression"					
Paint	Salt(act)/ Heat(body) resist. paint			For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.					
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD5B-1DLE-W			SV0021 Special paint				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			Salt(act)/ Heat(body) resist. paint				
	Input signal	4-20 mADC			HART AVP SP No.5				
	Regulator	KZ03-3B-XX	1		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Regulator2								
	Limit switch								
	Action								
	Solenoid valve								
	Action / Power								
	Booster								
	Air lock valve								
	Action								
	Action								
	Action								
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	ETHYLENE GLYCOL/WATER		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX	NOR	MIN	Unit				
Flow rate		534200	445210	222605	kg/h				
Inlet pressure		19.93	19.93	19.93	kgf/cm2G				
Outlet pressure					kgf/cm2G				
Differential press.		4.579	4.586	4.6	kgf/cm2				
Shut-off press.		23.5			kgf/cm2	Strength Calc. Sheet			
Temperature		216.2	216.2	216.2	degC	Design	Press.	23.5	kgf/cm2G
Density/Gravity(Liq)		852.0	852.0	852.0	kg/m3		Temp.	255	degC
Density/Gravity(G,V)					MW				
Viscosity		0.133	0.133	0.133	cP	Pipe	Up stream	Down stream	
Flash		Flash	Flash	Flash	%	Size	20 in.	20 in.	inch
Calculated CV		462.1	381.4	186.5		Sch No.	40	40	
Travel		79	70	47	%	Thickness	15.1	15.1	mm
Inlet velocity		2.465	2.055	1.027	m/s				
Predictive SPL	80	79	76	dBA	<b>Azbil Corporation</b>				

# Control Valve Data Sheet

Item No. / Qty	12	1	Ref. No.	EI-1112001						
Tag No.	3LV-1421		Purchaser	SHARQ						
Service			End user	SHARQ						
			Project	Revamp Project						
			Unit name	17 pcs						
<b>&lt;Control valve&gt;</b>	Model	ADVM			<b>&lt;Remarks&gt;</b>					
	Description	Top and Bottom Guided Double-Seat Control Valves			SV0703-105 Indicating unit : "kgf/cm2"					
	Body/Port size	8 in.	6 in.		SV0601-001 Air piping Connection: 1/4 NPT					
	Conn. Size. / Rated CV			450	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)					
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)					
	Body material	A351CF8M			SV0801-E10 Material certificate in English. Scope: valve body, bonnet, tailpiece(bottom flange), plug, seat ring (cage) and stem					
	Trim material	SUS316 STELLITE								
	Flow characteristic	EQ%								
	Bonnet	EXT-1 (230 to 400 degC)			SV0505-002 Maximum flow stopper for actuator					
	Actuator / Handle	HA4R	SIDE		SV0803-001 Liquid penetrant test(PT) by our standard					
	Action	AIR TO OPEN			SV0802-001 Radio-graphic test(RT) by our standard					
	Gland packing / Grease	P6610CL+P6722	PS6		SV0507 Actuator yoke material: SCPH2 or WCB					
	Gasket	V543(Graphite)+V563(Graphite)+T1806GR			PMI Test for Body, Bonnet.					
	Air supply / Spring range	4.0kgf/cm2	0.8-2.4kgf/cm2		Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's					
	Seat leakage	CLASS IV			requirement with Service Name at 6mm Height Letter					
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5	Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)						
Paint	Salt(act)/ Heat(body) resist. paint			On the edge of Bonnet Flange & Body Flange, following shall be stamped.						
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD3B-1DYN-X			Body Material, Finish, Size, ASME Class Rating.					
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's					
	Input signal	4-20 mADC			requirement as "Danger - Spring Under Compression"					
	Regulator	KZ03-2B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.					
	Regulator2				SV0021 Special paint					
	Limit switch				Salt(act)/ Heat(body) resist. paint					
	Action				HART AVP SP No.5					
	Solenoid valve				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)					
	Action / Power									
	Booster									
	Air lock valve									
	Action									
	Action									
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>			
		MAX	NOR	MIN	Unit					
Flow rate		137000	114228	57114	kg/h					
Inlet pressure		19.84	19.88	19.95	kgf/cm2G					
Outlet pressure					kgf/cm2G					
Differential press.		9.391	9.696	9.817	kgf/cm2					
Shut-off press.		23			kgf/cm2	Strength Calc. Sheet				
Temperature		212.6	212.6	212.6	degC	Design	Press.	23	kgf/cm2G	
Density/Gravity(Liq)		851.2	851.2	851.2	kg/m3		Temp.	255	degC	
Density/Gravity(G,V)					MW					
Viscosity		0.123	0.123	0.123	cP	Pipe	Up stream	Down stream		
Flash		Flash	Flash	Flash	%		Size	8 in.	8 in.	inch
Calculated CV		122.7	105.8	66.01			Sch No.	40	40	
Travel		57	54	44	%		Thickness	8.2	8.2	mm
Inlet velocity		1.424	1.187	0.5936	m/s					
Predictive SPL	67	66	61	dBA	<b>Azbil Corporation</b>					

# Control Valve Data Sheet

Item No. / Qty	12	1	Ref. No.	EI-1112001					
Tag No.	3LV-1421 (Alternative)		Purchaser	SHARQ					
Service			End user	SHARQ					
			Project	Revamp Project					
			Unit name	17 pcs					
<b>&lt;Control valve&gt;</b>	Model	ADVM			<b>&lt;Remarks&gt;</b>				
	Description	Top and Bottom Guided Double-Seat Control Valves			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	6 in.	6 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			450	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A351CF8M			SV0801-E10 Material certificate in English. Scope: valve body, bonnet, tailpiece(bottom flange), plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE							
	Flow characteristic	EQ%							
	Bonnet	EXT-1 (230 to 400 degC)			SV0505-002 Maximum flow stopper for actuator				
	Actuator / Handle	PSA3R	SIDE		SV0803-001 Liquid penetrant test(PT) by our standard				
	Action	AIR TO OPEN			SV0802-001 Radio-graphic test(RT) by our standard				
	Gland packing / Grease	P6610CL+P6722	PS6		PMI Test for Body, Bonnet.				
	Gasket	V543(Graphite)+V563(Graphite)+T1806GR			Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's				
	Air supply / Spring range	4.0kgf/cm2	0.8-2.4kgf/cm2		requirement with Service Name at 6mm Height Letter				
	Seat leakage	CLASS IV			Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5	On the edge of Bonnet Flange & Body Flange, following shall be stamped.					
Paint	Salt(act)/ Heat(body) resist. paint								
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD3B-1DYQ-X			Body Material, Finish, Size, ASME Class Rating.				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's				
	Input signal	4-20 mADC			requirement as "Danger - Spring Under Compression"				
	Regulator	KZ03-2B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.				
	Regulator2				SV0021 Special paint				
	Limit switch				Salt(act)/ Heat(body) resist. paint				
	Action				HART AVP SP No.5				
	Solenoid valve				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Action / Power								
	Booster								
	Air lock valve								
	Action								
	Action								
	Action								
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX	NOR	MIN	Unit				
Flow rate		137000	114228	57114	kg/h				
Inlet pressure		19.84	19.88	19.95	kgf/cm2G				
Outlet pressure					kgf/cm2G				
Differential press.		9.391	9.696	9.817	kgf/cm2				
Shut-off press.		23			kgf/cm2	Strength Calc. Sheet			
Temperature		212.6	212.6	212.6	degC	Design	Press.	23	kgf/cm2G
Density/Gravity(Liq)		851.2	851.2	851.2	kg/m3		Temp.	255	degC
Density/Gravity(G,V)					MW				
Viscosity		0.123	0.123	0.123	cP	Pipe	Up stream	Down stream	
Flash		Flash	Flash	Flash	%	Size	8 in.	8 in.	inch
Calculated CV		130.9	104.6	63.79		Sch No.	40	40	
Travel		58	53	43	%	Thickness	8.2	8.2	mm
Inlet velocity		2.531	2.111	1.055	m/s				
Predictive SPL	67	66	62	dBA	<b>Azbil Corporation</b>				

# Control Valve Data Sheet

Item No. / Qty	13	1	Ref. No.	EI-1112001					
Tag No.	3LV-1423		Purchaser	SHARQ					
Service			End user	SHARQ					
			Project	Revamp Project					
			Unit name	17 pcs					
<b>&lt;Control valve&gt;</b>	Model	ADVM			<b>&lt;Remarks&gt;</b>				
	Description	Top and Bottom Guided Double-Seat Control Valves			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	8 in.	6 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			450	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A351CF8M			SV0801-E10 Material certificate in English. Scope: valve body, bonnet, tailpiece(bottom flange), plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE							
	Flow characteristic	EQ%							
	Bonnet	EXT-1 (230 to 400 degC)			SV0505-002 Maximum flow stopper for actuator				
	Actuator / Handle	HA4R	SIDE		SV0803-001 Liquid penetrant test(PT) by our standard				
	Action	AIR TO OPEN			SV0802-001 Radio-graphic test(RT) by our standard				
	Gland packing / Grease	P6610CL+P6722	PS6		SV0507 Actuator yoke material: SCPH2 or WCB				
	Gasket	V543(Graphite)+V563(Graphite)+T1806GR			PMI Test for Body, Bonnet.				
	Air supply / Spring range	4.0kgf/cm2	0.8-2.4kgf/cm2		Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's				
	Seat leakage	CLASS IV			requirement with Service Name at 6mm Height Letter				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5	Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)					
Paint	Salt(act)/ Heat(body) resist. paint			On the edge of Bonnet Flange & Body Flange, following shall be stamped.					
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD3B-1DYN-X			Body Material, Finish, Size, ASME Class Rating.				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's				
	Input signal	4-20 mADC			requirement as "Danger - Spring Under Compression"				
	Regulator	KZ03-2B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.				
	Regulator2				SV0021 Special paint				
	Limit switch				Salt(act)/ Heat(body) resist. paint				
	Action				HART AVP SP No.5				
	Solenoid valve				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Action / Power				HANDWHEEL LOCATION TO BE CONFIRMED				
	Booster								
	Air lock valve								
	Action								
	Action								
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX	NOR	MIN	Unit				
Flow rate		147200	122703	61351	kg/h				
Inlet pressure		15.19	15.22	15.27	kgf/cm2G				
Outlet pressure					kgf/cm2G				
Differential press.		4.992	5.029	5.099	kgf/cm2				
Shut-off press.		20			kgf/cm2	Strength Calc. Sheet			
Temperature		200.2	200.2	200.2	degC	Design	Press.	20	kgf/cm2G
Density/Gravity(Liq)		866.9	866.9	866.9	kg/m3		Temp.	245	degC
Density/Gravity(G,V)					MW				
Viscosity		0.131	0.131	0.131	cP	Pipe	Up stream	Down stream	
Flash		Flash	Flash	Flash	%	Size	8 in.	8 in.	inch
Calculated CV		147.3	124.5	78.39		Sch No.	40	40	
Travel		61	57	47	%	Thickness	8.2	8.2	mm
Inlet velocity		1.502	1.252	0.6261	m/s				
Predictive SPL	67	66	61	dBA	<b>Azbil Corporation</b>				

# Control Valve Data Sheet

Item No. / Qty	13	1	Ref. No.	EI-1112001					
Tag No.	3LV-1423(Alternative)		Purchaser	SHARQ					
Service			End user	SHARQ					
			Project	Revamp Project					
			Unit name	17 pcs					
<b>&lt;Control valve&gt;</b>	Model	ADVM			<b>&lt;Remarks&gt;</b>				
	Description	Top and Bottom Guided Double-Seat Control Valves			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size	6 in.	6 in.		SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV			450	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)				
	Body material	A351CF8M			SV0801-E10 Material certificate in English. Scope: valve body, bonnet, tailpiece(bottom flange), plug, seat ring (cage) and stem				
	Trim material	SUS316 STELLITE							
	Flow characteristic	EQ%							
	Bonnet	EXT-1 (230 to 400 degC)			SV0505-002 Maximum flow stopper for actuator				
	Actuator / Handle	PSA3R	SIDE		SV0803-001 Liquid penetrant test(PT) by our standard				
	Action	AIR TO OPEN			SV0802-001 Radio-graphic test(RT) by our standard				
	Gland packing / Grease	P6610CL+P6722	PS6		PMI Test for Body, Bonnet.				
	Gasket	V543(Graphite)+V563(Graphite)+T1806GR			Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's				
	Air supply / Spring range	4.0kgf/cm2	0.8-2.4kgf/cm2		requirement with Service Name at 6mm Height Letter				
	Seat leakage	CLASS IV			Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5	On the edge of Bonnet Flange & Body Flange, following shall be stamped.					
Paint	Salt(act)/ Heat(body) resist. paint								
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD3B-1DYQ-X			Body Material, Finish, Size, ASME Class Rating.				
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's				
	Input signal	4-20 mA DC			requirement as "Danger - Spring Under Compression"				
	Regulator	KZ03-2B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.				
	Regulator2				SV0021 Special paint				
	Limit switch				Salt(act)/ Heat(body) resist. paint				
	Action				HART AVP SP No.5				
	Solenoid valve				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
	Action / Power								
	Booster				HANDHWEEL LOCATION TO BE CONFIRMED				
	Air lock valve								
	Action								
	Action								
	Action								
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX	NOR	MIN	Unit				
Flow rate		147200	122703	61351	kg/h				
Inlet pressure		15.19	15.22	15.27	kgf/cm2G				
Outlet pressure					kgf/cm2G				
Differential press.		4.992	5.029	5.099	kgf/cm2				
Shut-off press.		20			kgf/cm2	Strength Calc. Sheet			
Temperature		200.2	200.2	200.2	degC	Design	Press.	20	kgf/cm2G
Density/Gravity(Liq)		866.9	866.9	866.9	kg/m3		Temp.	245	degC
Density/Gravity(G,V)					MW				
Viscosity		0.131	0.131	0.131	cP	Pipe	Up stream	Down stream	
Flash		Flash	Flash	Flash	%	Size	8 in.	8 in.	inch
Calculated CV		143.9	124.2	74.72		Sch No.	40	40	
Travel		60	57	46	%	Thickness	8.2	8.2	mm
Inlet velocity		2.67	2.226	1.113	m/s				
Predictive SPL	67	66	61	dBA	<b>Azbil Corporation</b>				

# Control Valve Data Sheet

Item No. / Qty	14	1	Ref. No.	EI-1112001		
Tag No.	3LV-1425		Purchaser	SHARQ		
Service			End user	SHARQ		
			Project	Revamp Project		
			Unit name	17 pcs		
<b>&lt;Control valve&gt;</b>	Model		ADVM		<b>&lt;Remarks&gt;</b>	
	Description		Top and Bottom Guided Double-Seat Control Valves		SV0703-105 Indicating unit : "kgf/cm2"	
	Body/Port size		8 in.	6 in.	SV0601-001 Air piping Connection: 1/4 NPT	
	Conn. Size. / Rated CV				SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)	
	Rating / Conn. Type		ANSI300	RF	SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)	
	Body material		A351CF8M		SV0801-E10 Material certificate in English. Scope: valve body, bonnet, tailpiece(bottom flange), plug, seat ring (cage) and stem	
	Trim material		SUS316 STELLITE			
	Flow characteristic		EQ%			
	Bonnet		PLAIN (-17 to 230 degC)		SV0505-002 Maximum flow stopper for actuator	
	Actuator / Handle		HA4R	SIDE	SV0803-001 Liquid penetrant test(PT) by our standard	
	Action		AIR TO OPEN		SV0802-001 Radio-graphic test(RT) by our standard	
	Gland packing / Grease		P4519	---	SV0507 Actuator yoke material: SCPH2 or WCB	
	Gasket		V543(PTFE) + V563(PTFE) + T1806GR		PMI Test for Body, Bonnet.	
	Air supply / Spring range		4.0kgf/cm2	0.8-2.4kgf/cm2	Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's	
	Seat leakage		CLASS IV		requirement with Service Name at 6mm Height Letter	
Color: Body/Diaph./Yoke		N7.5	N6.0	N7.5	Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)	
Paint		Salt(act)/ Heat(body) resist. paint		On the edge of Bonnet Flange & Body Flange, following shall be stamped.		
<b>&lt;Accessories&gt;</b>	Positioner		AVP302-CSD3B-1DYN-X		Body Material, Finish, Size, ASME Class Rating.	
			Structure		ATEX Flameproof, 1/4 NPT, M20x1.5	
			Input signal		4-20 mA DC	
	Regulator		KZ03-2B-XX	1	SS Tag plate attached on Diaphragm case (Plate size and description are Customer's	
	Regulator2				requirement as "Danger - Spring Under Compression"	
	Limit switch				For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.	
			Action		SV0021 Special paint	
	Solenoid valve				Salt(act)/ Heat(body) resist. paint	
			Action / Power		HART AVP SP No.5	
	Booster				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
	Air lock valve					
			Action			
			Action			
			Action			
	<b>&lt;Process data&gt;</b>	Fluid name/Phase		CONDENSATE		<b>&lt;Piping spec.&gt;</b>
		LIQUID				
		MAX	NOR	MIN	Unit	
Flow rate		153600	128092	64045	kg/h	
Inlet pressure		11.29	11.33	11.41	kgf/cm2G	
Outlet pressure					kgf/cm2G	
Differential press.		0.9116	0.9789	1.142	kgf/cm2	
Shut-off press.		20			kgf/cm2	
Temperature		187.1	187.1	187.1	degC	
Density/Gravity(Liq)		881.9	881.9	881.9	kg/m3	
Density/Gravity(G,V)					MW	
Viscosity		0.141	0.141	0.141	cP	
Flash		Flash	Flash	Flash	%	
Calculated CV		200	160.9	89.37		
Travel		67	63	50	%	
Inlet velocity		1.541	1.285	0.6424	m/s	
Predictive SPL		64	64	60	dBA	
		Strength Calc. Sheet				
		Design	Press.	20	kgf/cm2G	
			Temp.	220	degC	
		Pipe	Up stream	Down stream		
			Size	8 in.	8 in.	
			Sch No.	40	40	
			Thickness	8.2	8.2	
					mm	

Azbil Corporation

# Control Valve Data Sheet

Item No. / Qty	14	1	Ref. No.	EI-1112001			
Tag No.	3LV-1425(Alternative)		Purchaser	SHARQ			
Service			End user	SHARQ			
			Project	Revamp Project			
			Unit name	17 pcs			
<b>&lt;Control valve&gt;</b>	Model	ADVM			<b>&lt;Remarks&gt;</b>		
	Description	Top and Bottom Guided Double-Seat Control Valves			SV0703-105 Indicating unit : "kgf/cm2"		
	Body/Port size	6 in.	6 in.		SV0601-001 Air piping Connection: 1/4 NPT		
	Conn. Size. / Rated CV			450	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)		
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)		
	Body material	A351CF8M			SV0801-E10 Material certificate in English. Scope: valve body, bonnet, tailpiece(bottom flange), plug, seat ring (cage) and stem		
	Trim material	SUS316 STELLITE					
	Flow characteristic	EQ%					
	Bonnet	PLAIN (-17 to 230 degC)			SV0505-002 Maximum flow stopper for actuator		
	Actuator / Handle	PSA3R	SIDE		SV0803-001 Liquid penetrant test(PT) by our standard		
	Action	AIR TO OPEN			SV0802-001 Radio-graphic test(RT) by our standard		
	Gland packing / Grease	P4519	---		PMI Test for Body, Bonnet.		
	Gasket	V543(PTFE) + V563(PTFE) + T1806GR			Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's		
	Air supply / Spring range	4.0kgf/cm2	0.8-2.4kgf/cm2		requirement with Service Name at 6mm Height Letter		
	Seat leakage	CLASS IV			Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)		
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5	On the edge of Bonnet Flange & Body Flange, following shall be stamped.			
Paint	Salt(act)/ Heat(body) resist. paint						
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD3B-1DYQ-X			Body Material, Finish, Size, ASME Class Rating.		
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's		
	Input signal	4-20 mA DC			requirement as "Danger - Spring Under Compression"		
	Regulator	KZ03-2B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.		
	Regulator2				SV0021 Special paint		
	Limit switch				Salt(act)/ Heat(body) resist. paint		
	Action				HART AVP SP No.5		
	Solenoid valve				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)		
	Action / Power						
	Booster						
	Air lock valve						
	Action						
	Action						
	Action						
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>
		MAX	NOR	MIN	Unit		
Flow rate		153600	128092	64045	kg/h		
Inlet pressure		11.29	11.33	11.41	kgf/cm2G		
Outlet pressure					kgf/cm2G		
Differential press.		0.9116	0.9789	1.142	kgf/cm2		
Shut-off press.		20			kgf/cm2	Strength Calc. Sheet	
Temperature		187.1	187.1	187.1	degC	Design	Press. 20 kgf/cm2G
Density/Gravity(Liq)		881.9	881.9	881.9	kg/m3	Temp.	220 degC
Density/Gravity(G,V)					MW		
Viscosity		0.141	0.141	0.141	cP	Pipe	Up stream Down stream
Flash		Flash	Flash	Flash	%	Size	8 in. 8 in. inch
Calculated CV		201.8	161.9	88.82			
Travel		67	63	50	%	Sch No.	40 40
Inlet velocity		2.739	2.284	1.142	m/s	Thickness	8.2 8.2 mm
Predictive SPL	64	64	60	dBA	<b>Azbil Corporation</b>		

# Control Valve Data Sheet

Item No. / Qty		15		1		Ref. No.	EI-1112001			
Tag No.		3PV-1404				Purchaser	SHARQ			
Service						End user	SHARQ			
						Project	Revamp Project			
						Unit name	17 pcs			
<b>&lt;Control valve&gt;</b>	Model		VST			<b>&lt;Remarks&gt;</b>				
	Description		Top Guiding Single Seated Control Valves (Rating; ANSI 6			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size		14 in.		10 in.		SV0601-001 Air piping Connection: 1/4 NPT			
	Conn. Size. / Rated CV					1000		SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)		
	Rating / Conn. Type		ANSI600		RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)			
	Body material		A351CF8M			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem				
	Trim material		SUS316 STELLITE			SV0803-001 Liquid penetrant test(PT) by our standard				
	Flow characteristic		EQ%			SV0802-001 Radio-graphic test(RT) by our standard				
	Bonnet		FIN (200 to 450 degC)			SV0505-002 Maximum flow stopper for actuator				
	Actuator / Handle		DAP2500X		SIDE (HYD)		PMI Test for Body, Bonnet.			
	Action		AIR TO OPEN			Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's requirement.) with Service Name at 6mm Height Letter				
	Gland packing / Grease		P6610CH+P6528		PS6		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)			
	Gasket		V543			On the edge of Bonnet Flange & Body Flange, following shall be stamped.				
	Air supply / Spring range		5.0kgf/cm2		---		Body Material, Finish, Size, ASME Class Rating.			
	Seat leakage		CLASS IV			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's requirement as "Danger - Spring Under Compression"				
Color: Body/Diaph./Yoke		N7.5		N6.0		N7.5		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.		
Paint		Salt(act)/ Heat(body) resist. paint			SV0021 Special paint					
<b>&lt;Accessories&gt;</b>	Positioner		AVP302-CSD5B-1DY5-W			Salt(act)/ Heat(body) resist. paint				
	Structure		ATEX Flameproof, 1/4 NPT, M20x1.5			HART AVP SP No.5				
	Input signal		4-20 mA DC			Air-fail-close system with 400L tank				
	Regulator		KZ03-3B-XX		1		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)			
	Regulator2									
	Limit switch									
	Action									
	Solenoid valve									
	Action / Power									
	Booster									
	Air lock valve									
	Action									
	Action									
	Action									
	<b>&lt;Process data&gt;</b>	Fluid name/Phase		ETHYLENE GLYCOL/WATER		LIQUID		<b>&lt;Piping spec.&gt;</b>		
		MAX		NOR		MIN		Unit		
Flow rate		656300		546925		273462		kg/h		
Inlet pressure		34.09		34.14		34.23		kgf/cm2G		
Outlet pressure								kgf/cm2G		
Differential press.		14.34		14.39		14.49		kgf/cm2		
Shut-off press.				55.6				kgf/cm2		
Temperature		234.5		234.5		234.5		degC		
Density/Gravity(Liq)		182.3		182.3		182.3		kg/m3		
Density/Gravity(G,V)								MW		
Viscosity		0.12		0.12		0.12		cP		
Flash		Flash		Flash		Flash		%		
Calculated CV		636.8		526.1		257.4				
Travel		73		65		45		%		
Inlet velocity		10.4		8.666		4.333		m/s		
Predictive SPL		87		86		83		dBA		
								Strength Calc. Sheet		
								Design		
								Press.		
								Temp.		
								Pipe		
								Up stream		
								Down stream		
								Size		
								Sch No.		
								Thickness		
								inch		
								mm		
								<b>Azbil Corporation</b>		

# Control Valve Data Sheet

Item No. / Qty	16	1	Ref. No.	EI-1112001		
Tag No.	3PV-1436		Purchaser	SHARQ		
Service			End user	SHARQ		
			Project	Revamp Project		
			Unit name	17 pcs		
Control valve	Model		VST		<b>&lt;Remarks&gt;</b>	
	Description		Top Guiding Single Seated Control Valves (Rating; ANSI 6		SV0703-105 Indicating unit : "kgf/cm2"	
	Body/Port size		18 in.	14 in.	SV0601-001 Air piping Connection: 1/4 NPT	
	Conn. Size. / Rated CV				SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)	
	Rating / Conn. Type		ANSI300	RF	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
	Body material		A216WCB		SV0804 Magnetic-particle test(MT)	
	Trim material		SUS316 STELLITE		SV0803-001 Liquid penetrant test(PT) by our standard	
	Flow characteristic		EQ%		SV0802-001 Radio-graphic test(RT) by our standard	
	Bonnet		FIN (200 to 450 degC)		SV0505-002 Maximum flow stopper for actuator	
	Actuator / Handle		DAP2500X	---	PMI Test for Body, Bonnet.	
	Action		AIR TO OPEN		SV0006-003 Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's requirement.)	
	Gland packing / Grease		P6610CH+P6528	PS6	with Service Name at 6mm Height Letter	
	Gasket		V543		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)	
	Air supply / Spring range		5.0kgf/cm2	---	On the edge of Bonnet Flange & Body Flange, following shall be stamped.	
	Seat leakage		CLASS IV		Body Material, Finish, Size, ASME Class Rating.	
Color: Body/Diaph./Yoke		N7.5	N6.0	N7.5	SS Tag plate attached on Diaphragm case (Plate size and description are Customer's requirement as "Danger - Spring Under Compression"	
Paint		Salt(act)/ Heat(body) resist. paint		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.		
Accessories	Positioner		AVP302-CSD5B-1DY5-W		SV0021 Special paint	
	Structure		ATEX Flameproof, 1/4 NPT, M20x1.5		Salt(act)/ Heat(body) resist. paint	
	Input signal		4-20 mA DC		HART AVP SP No.5	
	Regulator		KZ03-3B-XX	1	SV0604-003 Air-fail-Close system with 200L tank	
	Regulator2				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
	Limit switch		3XVSH1499/3XVSL1499	1		
	Action		Full Open and Close on			
	Solenoid valve		3XVS1499	1		
	Action / Power		En: Control, De: Close			
	Booster					
	Air lock valve					
	Action					
	Action					
	Action					
	Process data	Fluid name/Phase		STEAM		<b>&lt;Piping spec.&gt;</b>
		MAX	NOR	MIN	Unit	
Flow rate		115000	95818	47909	kg/h	
Inlet pressure		24.47	24.58	24.68	kgf/cm2G	
Outlet pressure					kgf/cm2G	
Differential press.		1.02	1.02	1.02	kgf/cm2	
Shut-off press.		27.5			kgf/cm2	
Temperature		224	224	224	degC	
Density/Gravity(Liq)					kg/m3	
Density/Gravity(G,V)		12.52	12.57	12.62	kg/m3(A)	
Viscosity		0.01685	0.01686	0.01686	cP	
Flash					%	
Calculated CV		1213	1009	503		
Travel		72	64	45	%	
Outlet velocity		0.03161	0.02623	0.01306	Mach	
Predictive SPL		72	71	70	dBA	
				Strength Calc. Sheet		
		Design	Press.	27.5	kgf/cm2G	
				Temp.	300 degC	
		Pipe		Up stream	Down stream	
		Size	18 in.	18 in.	inch	
		Sch No.	40	40		
		Thickness	14.3	14.3	mm	
<b>Azbil Corporation</b>						

# Control Valve Data Sheet

Item No. / Qty		16		1		Ref. No.	EI-1112001			
Tag No.		3PV-1436(Alternative)				Purchaser	SHARQ			
Service						End user	SHARQ			
						Project	Revamp Project			
						Unit name	17 pcs			
Control valve	Model		VST			<b>&lt;Remarks&gt;</b>				
	Description		Top Guiding Single Seated Control Valves (Rating; ANSI 6			SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size		16 in.		14 in.		SV0601-001 Air piping Connection: 1/4 NPT			
	Conn. Size. / Rated CV					1930		SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)		
	Rating / Conn. Type		ANSI300		RF		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem			
	Body material		A216WCB			SV0804 Magnetic-particle test(MT)				
	Trim material		SUS316 STELLITE			SV0803-001 Liquid penetrant test(PT) by our standard				
	Flow characteristic		EQ%			SV0802-001 Radio-graphic test(RT) by our standard				
	Bonnet		FIN (200 to 450 degC)			SV0505-002 Maximum flow stopper for actuator				
	Actuator / Handle		DAP2500X		---		PMI Test for Body, Bonnet.			
	Action		AIR TO OPEN			SV0006-003 Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's reQuirement.)				
	Gland packing / Grease		P6610CH+P6528		PS6		with Service Name at 6mm Height Letter			
	Gasket		V543			Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
	Air supply / Spring range		5.0kgf/cm2		---		On the edge of Bonnet Flange & Body Flange, following shall be stamped.			
	Seat leakage		CLASS IV			Body Material, Finish, Size, ASME Class Rating.				
Color: Body/Diaph./Yoke		N7.5		N6.0		N7.5		SS Tag plate attached on Diaphragm case (Plate size and description are Customer's		
Paint		Salt(act)/ Heat(body) resist. paint			requirement as "Danger - Spring Under Compression"					
Accessories	Positioner		AVP302-CSD5B-1DY5-W			For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.				
			Structure		ATEX Flameproof, 1/4 NPT, M20x1.5		SV0021 Special paint			
			Input signal		4-20 mADC		Salt(act)/ Heat(body) resist. paint			
	Regulator		KZ03-3B-XX		1		HART AVP SP No.5			
	Regulator2							Air-fail-Close system with 200L tank		
	Limit switch		3XVSH1499/3XVSL1499		1		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)			
			Action		Full Open and Close on					
	Solenoid valve		3XVS1499		1					
			Action / Power		En: Control, De: Close					
	Booster									
	Air lock valve									
			Action							
			Action							
			Action							
	Process data	Fluid name/Phase		STEAM		STEAM		<b>&lt;Piping spec.&gt;</b>		
		MAX		NOR		MIN		Unit		
Flow rate		115000		95818		47909		kg/h		
Inlet pressure		24.47		24.58		24.68		kgf/cm2G		
Outlet pressure								kgf/cm2G		
Differential press.		1.02		1.02		1.02		kgf/cm2		
Shut-off press.				27.5				kgf/cm2		
Temperature		224		224		224		degC		
Density/Gravity(Liq)								kg/m3		
Density/Gravity(G,V)		12.52		12.57		12.62		kg/m3(A)		
Viscosity		0.01685		0.01686		0.01686		cP		
Flash								%		
Calculated CV		1214		1009		503				
Travel		72		64		45		%		
Outlet velocity		0.04001		0.03319		0.01653		Mach		
Predictive SPL		72		72		70		dBA		
								Strength Calc. Sheet		
								Design		
								Press.		
								Temp.		
								Pipe		
								Up stream		
								Down stream		
								Size		
								Sch No.		
								Thickness		
								inch		
								mm		
								<b>Azbil Corporation</b>		

# Control Valve Data Sheet

Item No. / Qty		17		1		Ref. No.	EI-1112001			
Tag No.		3XV-1499				Purchaser	SHARQ			
Service						End user	SHARQ			
						Project	Revamp Project			
						Unit name	17 pcs			
Control valve	Model		Ball Valve (Qublock)			<b>&lt;Remarks&gt;</b>				
	Description					SV0703-105 Indicating unit : "kgf/cm2"				
	Body/Port size		10 in.			SV0601-001 Air piping Connection: 1/4 NPT				
	Conn. Size. / Rated CV					SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)				
	Rating / Conn. Type		ANSI300		RF		SV0506 On-Off action			
	Body material		A105			SV0801-E07 Material certificate in English. Scope: valve body, plug and seat-ring				
	Trim material		SS304/SS329J4L/Carbon(Seat)			Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)				
	Flow characteristic									
	Bonnet		PLAIN (230 to 350 degC)							
	Actuator / Handle					---				
	Action		AIR TO OPEN							
	Gland packing / Grease									
	Gasket		---							
	Air supply / Spring range					---				
	Seat leakage		CLASS IV							
Color: Body/Diaph./Yoke		N7.5	N6.0	N7.5						
Paint										
Accessories	Positioner									
	Structure									
	Input signal		On-Off action							
	Regulator		Yes		1					
	Regulator2									
	Limit switch		Yes		1					
	Action		Full Open and Close on							
	Solenoid valve		Yes		1					
	Action / Power		En: Open, De: Close							
	Booster									
Air lock valve										
Action										
Action										
Action										
Action										
Process data	Fluid name/Phase		STEAM		STEAM		<b>&lt;Piping spec.&gt;</b>			
			MAX	NOR	MIN	Unit				
	Flow rate		63000	57000	30000	kg/h				
	Inlet pressure		25.49	25.49	25.49	kgf/cm2G				
	Outlet pressure					kgf/cm2G				
	Differential press.		1.02	1.02	1.02	kgf/cm2				
	Shut-off press.		27.5			kgf/cm2	Strength Calc. Sheet			
	Temperature		227	227	227	degC				
	Density/Gravity(Liq)					kg/m3				
	Density/Gravity(G,V)		12.97	12.97	12.97	kg/m3(A)				
	Viscosity		0.01696	0.01696	0.01696	cP				
	Flash					%				
	Calculated CV		653	590.8	310.9					
	Travel					%				
	Outlet velocity		0.05397	0.04883	0.0257	Mach				
Predictive SPL					dBA					
						Pipe		Up stream	Down stream	
						Size	18 in.	18 in.	inch	
						Sch No.	40	40		
						Thickness	14.3	14.3	mm	
<b>Azbil Corporation</b>										

# Control Valve Data Sheet

Item No. / Qty	18	1	Ref. No.	EI-1112001			
Tag No.	3LV-1108-B		Purchaser	SHARQ			
Service			End user	SHARQ			
			Project	Revamp Project			
			Unit name	17 pcs			
<b>&lt;Control valve&gt;</b>	Model	HAV			<b>&lt;Remarks&gt;</b>		
	Description	Venturi Throat Type Angle Control Valves			SV0703-105 Indicating unit : "kgf/cm2"		
	Body/Port size	6 in.	3 in.		SV0601-001 Air piping Connection: 1/4 NPT		
	Conn. Size. / Rated CV			175	SV0101-005 Flange facing finish : Serration ASME B16.5(125~250AARH)		
	Rating / Conn. Type	ANSI300	RF		SV0401-003 Dust-proof bellows (Bracket and screw material: 304ss)		
	Body material	A216WCB			SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem		
	Trim material	SUS316 STELLITE FACE			SV0804 Magnetic-particle test(MT)		
	Flow characteristic	EQ%			SV0803-001 Liquid penetrant test(PT) by our standard		
	Bonnet	EXT-1 (200 to 450 degC)			SV0802-001 Radio-graphic test(RT) by our standard		
	Actuator / Handle	DAP1000	---		SV0505-002 Maximum flow stopper for actuator		
	Action	AIR TO OPEN(Side to Bottom)			PMI Test for Body, Bonnet.		
	Gland packing / Grease	P6610CH+P6528	650		SV0006-003 Tag No. plate mounted on Diaphragm case (Plate size and description are Customer's reQUIREment.)		
	Gasket	V543			with Service Name at 6mm Height Letter.		
	Air supply / Spring range	5.0kgf/cm2	---		Air piping: Stainless steel (316ss) tube. Joint: Double-Ferule SWAGELOCK Joint.(316ss)		
	Seat leakage	CLASS IV			On the edge of Bonnet Flange & Body Flange, following shall be stamped.		
Color: Body/Diaph./Yoke	N7.5	N6.0	N7.5				
Paint	Salt(act)/ Heat(body) resist. paint						
<b>&lt;Accessories&gt;</b>	Positioner	AVP302-CSD5B-1DY4-W			Body Material, Finish, Size, ASME Class Rating.		
	Structure	ATEX Flameproof, 1/4 NPT, M20x1.5			SS Tag plate attached on Diaphragm case (Plate size and description are Customer's		
	Input signal	4-20 mA DC			requirement as "Danger - Spring Under Compression"		
	Regulator	KZ03-3B-XX	1		For the NACE MR-0175, Hardness of Body & Bonnet shall be shown on the Material Certificate.		
	Regulator2				SV0021 Special paint		
	Limit switch				Salt(act)/ Heat(body) resist. paint		
	Action				HART AVP SP No.5		
	Solenoid valve				SV0604-002 Air-fail-Close system with 120L tank		
	Action / Power				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)		
	Booster						
	Air lock valve						
	Action						
	Action						
	Action						
	<b>&lt;Process data&gt;</b>	Fluid name/Phase	STEAM / CONDENSATE		LIQUID		<b>&lt;Piping spec.&gt;</b>
		MAX	NOR	MIN	Unit		
Flow rate		100737	91579	64105	kg/h		
Inlet pressure		15.01	15.01	15.01	kgf/cm2G		
Outlet pressure					kgf/cm2G		
Differential press.		11.42	11.42	11.43	kgf/cm2		
Shut-off press.		17.5			kgf/cm2	Strength Calc. Sheet	
Temperature		200.4	200.4	200.4	degC	Design	Press. 17.5 kgf/cm2G
Density/Gravity(Liq)		860.6	861.3	862.7	kg/m3	Temp.	225 degC
Density/Gravity(G,V)					MW		
Viscosity		0.138	0.138	0.137	cP	Pipe	Up stream Down stream
Flash		Flash	Flash	Flash	%	Size	8 in. 8 in. inch
Calculated CV		101.4	92.13	65.86			
Travel		70	67	58	%	Sch No.	40 40
Inlet velocity		1.841	1.672	1.169	m/s	Thickness	8.2 8.2 mm
Predictive SPL	65	65	63	dBA	<b>Azbil Corporation</b>		