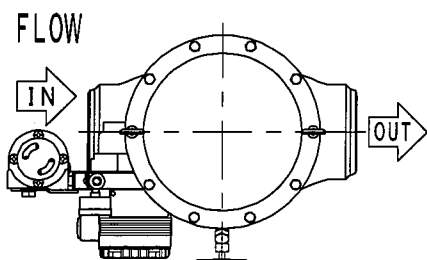
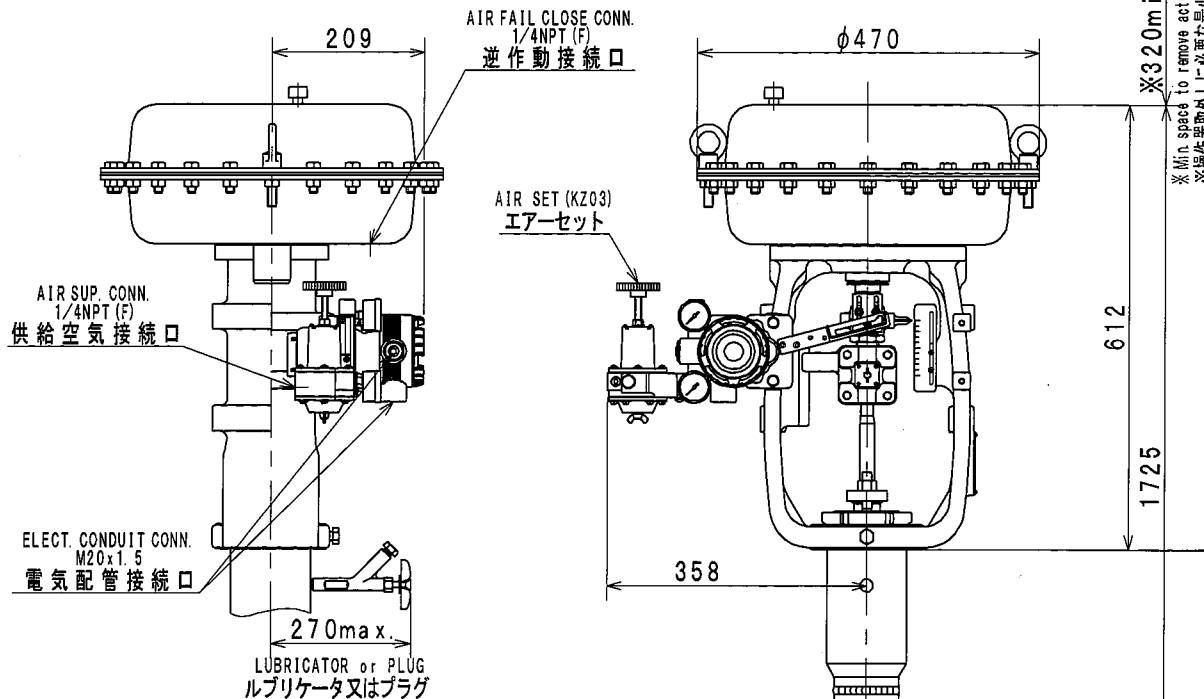


Item No. / Qty	1		1		Ref. No.				
Tag No.	1042FV-223A				Purchaser	Air Liquide France			
Service	LIN FROM 1E04202A/B TO 1T04201				End user				
					Project	CCTF NWU			
<Control valve>					<Remarks>				
Model	HTS				SV0703-102 Indicating unit : "bar"				
Description	Top-Guided Single Seated Control Valves				SV0601-001 Air piping Connection: 1/4 NPT				
Body/Port size	3 in.		2 in.		SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)				
Conn. Size. / Rated CV			44		SV0020-310 Oil free treatment for stainless steel body and Water free treatment				
Rating / Conn. Type	ANSI600		BW(Sch40)		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem				
Body material	A351CF8				SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method				
Trim material	SUS316 STELLITE				SV0816 Impact test				
Flow characteristic	EQ%				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)				
Bonnet	EXT-2 (-196 to -100 degC)				SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English				
Actuator / Handle	VA5R		---		SV0402-001 Packing follower with O-ring				
Action	AIR TO OPEN				Without Cover Plate				
Gland packing / Grease	V-PTFE+TK2006		---		HART AVP SP No.2				
Gasket	V543(PTFE),V563(PTFE)				SV0210 High shut-off pressure trim for Model HTS				
Air supply / Spring range	2.7bar		0.8-2.4bar						
Seat leakage	CLASS IV								
Color: Body/Diaph./Yoke	XXX		M10B5/10						
Paint	Standard								
<Accessories>									
Positioner	AVP302-LSD2D-1DYL-X								
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5								
Input signal	4-20 mADC								
Regulator	KZ03-2B-XX		1						
Regulator2									
Limit switch									
Action									
Solenoid valve	EMET8551B405SL		1						
Action / Power	En: Control, De: Close		AC230V 50Hz						
Booster									
Air lock valve									
<Process data>									
Fluid name/Phase	LIN			LIQUID					
	MAX	NOR	MIN	Unit					
Flow rate	27397	24907	12253	L/h					
Inlet pressure	40.12	40.12	40.12	barA					
Outlet pressure	31.12	31.12	31.12	barA					
Differential press.	9	9	9	bar					
Shut-off press.	4.5			MPa					
Temperature	-182	-182	-182	degC					
Density/Gravity(Liq)	754.8	754.8	754.8	kg/m3					
Density/Gravity(G,V)				kg/m3(N)					
Viscosity				mPa-s					
Flash				%					
Calculated CV	9.172	8.339	4.102						
Travel	51	49	35	%					
Inlet velocity	1.723	1.567	0.7708	m/s					
Predictive SPL	69	69	66	dBA					
					<Piping spec.>				
					Strength Calc. Sheet				
					Design		4.5		MPaG
					Temp.		-196		degC
					Size		3 in.		3 in.
					Sch No.		10S		10S
					Thickness		3		3
					Yamatake Corporation				

Item No. / Qty	2		1		Ref. No.			
Tag No.	1042FV-223B				Purchaser	Air Liquide France		
Service	LIN FROM 1E04202A/B TO 1T04201				End user			
					Project	CCTF NWU		
<Control valve>					<Remarks>			
Model	HTS				SV0703-102 Indicating unit : "bar"			
Description	Top-Guided Single Seated Control Valves				SV0601-001 Air piping Connection: 1/4 NPT			
Body/Port size	3 in.		2 in.		SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)			
Conn. Size. / Rated CV			44		SV0020-310 Oil free treatment for stainless steel body and Water free treatment			
Rating / Conn. Type	ANSI600		BW(Sch40)		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem			
Body material	A351CF8				SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method			
Trim material	SUS316 STELLITE				SV0816 Impact test			
Flow characteristic	EQ%				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)			
Bonnet	EXT-2 (-196 to -100 degC)				SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English			
Actuator / Handle	VA5R		---		SV0402-001 Packing follower with O-ring			
Action	AIR TO OPEN				Without Cover Plate			
Gland packing / Grease	V-PTFE+TK2006		---		SV0210 High shut-off pressure trim for Model HTS			
Gasket	V543(PTFE),V563(PTFE)				HART AVP SP No.2			
Air supply / Spring range	2.7bar		0.8-2.4bar					
Seat leakage	CLASS IV							
Color: Body/Diaph./Yoke	XXX		M10B5/10					
Paint	Standard							
<Accessories>								
Positioner	AVP302-LSD2D-1DYL-X							
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5							
Input signal	4-20 mADC							
Regulator	KZ03-2B-XX		1					
Regulator2								
Limit switch								
Action								
Solenoid valve	EMET8551B405SL		1					
Action / Power	En: Control, De: Close		AC230V 50Hz					
Booster								
Air lock valve								
<Process data>								
Fluid name/Phase	LIN			LIQUID				
	MAX	NOR	MIN	Unit				
Flow rate	27397	24907	12253	L/h				
Inlet pressure	40.12	40.12	40.12	barA				
Outlet pressure	31.12	31.12	31.12	barA				
Differential press.	9	9	9	bar				
Shut-off press.	4.5				MPa			
Temperature	-182	-182	-182	degC		Strength Calc. Sheet		
Density/Gravity(Liq)	754.8	754.8	754.8	kg/m3		Design	4.5 MPaG	
Density/Gravity(G,V)					kg/m3(N)		Temp.	-196 degC
Viscosity					mPa-s		Size	3 in. 3 in.
Flash					%		Sch No.	10S 10S
Calculated CV	9.172	8.339	4.102			Thickness	3 3	
Travel	51	49	35	%		Yamatake Corporation		
Inlet velocity	1.723	1.567	0.7708	m/s				
Predictive SPL	69	69	66	dBA				
					<Piping spec.>			

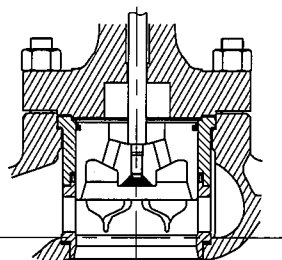
Item No. / Qty	3		1		Ref. No.			
Tag No.	1042FV-225				Purchaser	Air Liquide France		
Service	SG FROM 1E04202A/B TO 1E04206				End user			
					Project	CCTF NWU		
<Control valve>					<Remarks>			
Model	ACP				SV0703-102 Indicating unit : "bar"			
Description	Pressure Balanced Cage Type Control Valves				SV0601-001 Air piping Connection: 1/4 NPT			
Body/Port size	8 in.		8 in.		SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)			
Conn. Size. / Rated CV			610		SV0020-310 Oil free treatment for stainless steel body and Water free treatment			
Rating / Conn. Type	ANSI600		BW(Sch40)		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem			
Body material	A351CF3M				SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method			
Trim material	A351CF3M STELLITE				SV0816 Impact test			
Flow characteristic	EQ%				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)			
Bonnet	EXT-2 (-196 to -100 degC)				SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English			
Actuator / Handle	HA4R		---		SV0402-001 Packing follower with O-ring			
Action	AIR TO OPEN				Without Cover Plate			
Gland packing / Grease	V-PTFE+TK2006		---		HART AVP SP No.2			
Gasket	V543(PTFE),V7590							
Air supply / Spring range	2.7bar		0.8-2.4bar					
Seat leakage	CLASS IV							
Color: Body/Diaph./Yoke	XXX		M10B5/10					
Paint	Standard							
<Accessories>								
Positioner	AVP302-LSD2D-1DYN-X							
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5							
Input signal	4-20 mADC							
Regulator	KZ03-2B-XX		1					
Regulator2								
Limit switch								
Action								
Solenoid valve	EMET8551B405SL		1					
Action / Power	En: Control, De: Close		AC230V 50Hz					
Booster								
Air lock valve								
<Process data>					<Piping spec.>			
Fluid name/Phase	SGL			GAS				
	MAX	NOR	MIN	Unit				
Flow rate	82900	30000	47000	m3/h(N)				
Inlet pressure	31.36	31.36	31.36	barA				
Outlet pressure	31.13	31.13	31.346	barA				
Differential press.	0.23	0.23	0.014	bar				
Shut-off press.	3.8			MPa				
Temperature	-123	-123	-123	degC				
Density/Gravity(Liq)				kg/m3				
Density/Gravity(G,V)	0.2	0.2	0.2	kg/m3(N)				
Viscosity				mPa-s				
Flash				%				
Calculated CV	377.4	136.6	864.5					
Travel	84	51	100	%				
Outlet velocity	0.021	0.0076	0.01182	Mach				
Predictive SPL	50	50	50	dBA				
					Strength Calc. Sheet			
					Design		3.8	MPaG
					Temp.		-196	degC
					Size		8 in.	8 in.
					Sch No.		40S	40S
					Thickness			
Yamatake Corporation								

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。

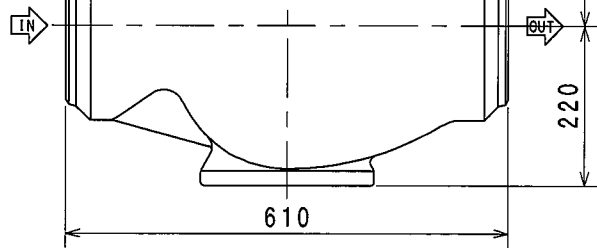


ORIENTATION
 配管取付姿勢 No. 1

SEE WELDING END DIM
 溶接開先寸法表参照



TRIM STRUCTURE (EXAMPLE)
 トリム構成図 (参考)



PROD. No. :
 工事番号 :

TAG No. : 1042FV-225

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
8	ANSI600		LOW TEMP. TYPE 低温形	HA4R	AIR TO OPEN	75	351

Press. Balanced Cage Type Control Valve
 プレッシュバランス形ケージ調節弁

MODEL No.

ACP

Yamatake Corporation

DRAWING No.
 ACP-HA6B7E-VGR04C0

REV.
 0

A

B

C

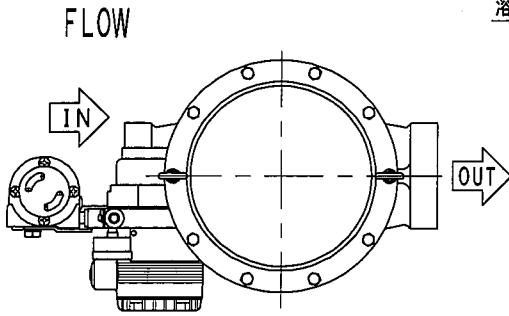
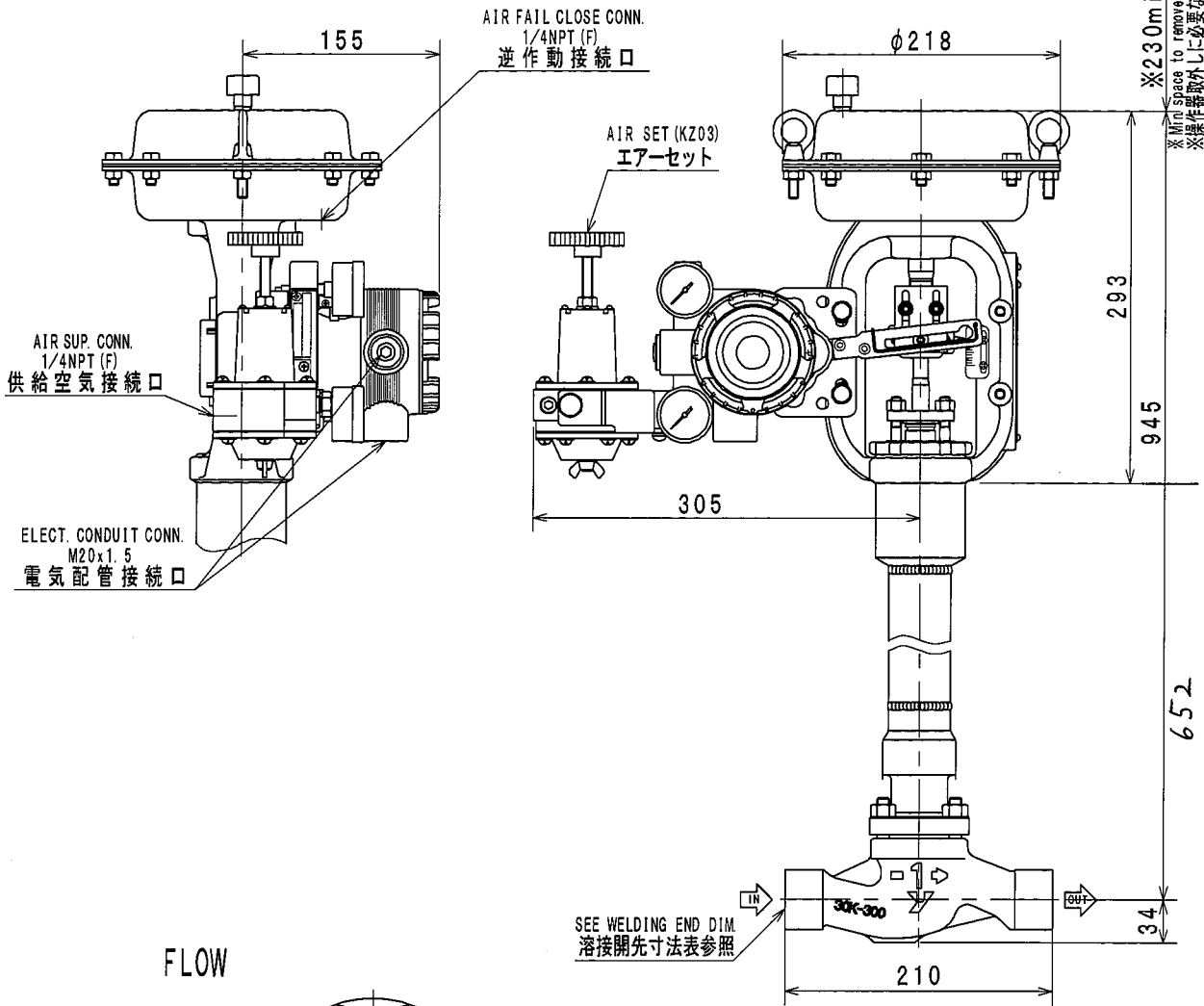
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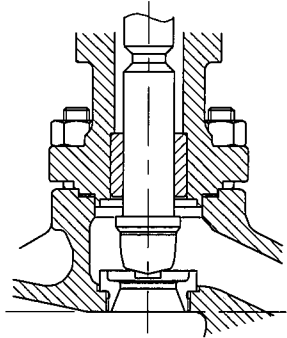
Item No. / Qty	4		1		Ref. No.			
Tag No.	1042FV-301				Purchaser	Air Liquide France		
Service	LIN FROM 1E04202A/B TO 1T04201				End user			
					Project	CCTF NWU		
<Control valve>					<Remarks>			
Model	HTS				SV0703-102 Indicating unit : "bar"			
Description	Top-Guided Single Seated Control Valves				SV0601-001 Air piping Connection: 1/4 NPT			
Body/Port size	4 in.		2-1/2 in.		SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)			
Conn. Size. / Rated CV			68		SV0020-310 Oil free treatment for stainless steel body and Water free treatment			
Rating / Conn. Type	ANSI600		BW(Sch40)		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem			
Body material	A351CF8				SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method			
Trim material	SUS316 STELLITE				SV0816 Impact test			
Flow characteristic	EQ%				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)			
Bonnet	EXT-2 (-196 to -100 degC)				SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English			
Actuator / Handle	PSA6R		---		SV0402-001 Packing follower with O-ring			
Action	AIR TO OPEN				Without Cover Plate			
Gland packing / Grease	V-PTFE+TK2006		---		SV0210 High shut-off pressure trim for Model HTS			
Gasket	V543(PTFE),V563(PTFE)				HART AVP SP No.2			
Air supply / Spring range	4.0bar		2.0-3.4bar					
Seat leakage	CLASS IV							
Color: Body/Diaph./Yoke	XXX		M10B5/10					
Paint	Standard							
<Accessories>								
Positioner	AVP302-LSD3D-1DYL-X							
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5							
Input signal	4-20 mADC							
Regulator	KZ03-2B-XX		1					
Regulator2								
Limit switch								
Action								
Solenoid valve	EMET8551B405SL		1					
Action / Power	En: Control, De: Close		AC230V 50Hz					
Booster								
Air lock valve								
<Process data>								
Fluid name/Phase	N2			LIQUID				
	MAX	NOR	MIN	Unit				
Flow rate	38442	34948	18219	L/h				
Inlet pressure	40.1	40.1	40.1	barA				
Outlet pressure	32.48	32.48	32.48	barA				
Differential press.	7.62	7.62	7.62	bar				
Shut-off press.	4.5				MPa			
Temperature	-138	-138	-138	degC		Strength Calc. Sheet		
Density/Gravity(Liq)	754.7	754.7	754.7	kg/m3		Design	4.5 MPaG	
Density/Gravity(G,V)					kg/m3(N)		Temp.	-196 degC
Viscosity					mPa-s		Size	4 in. 4 in.
Flash					%		Sch No.	40S 40S
Calculated CV	13.99	12.71	6.629			Thickness		
Travel	50	48	36	%		Yamatake Corporation		
Inlet velocity	1.36	1.237	0.6447	m/s				
Predictive SPL	69	69	66	dBA				
<Piping spec.>								

Item No. / Qty	5		1		Ref. No.		
Tag No.	1042FV-409				Purchaser	Air Liquide France	
Service	LIN FROM 1V04231 TO 1T04202				End user		
					Project	CCTF NWU	
<Control valve>					<Remarks>		
Model	AGVB				SV0703-102 Indicating unit : "bar"		
Description	Top-Guided Single-Seat Control Valves				SV0601-001 Air piping Connection: 1/4 NPT		
Body/Port size	1 in.		Cv=4.0		SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)		
Conn. Size. / Rated CV			4.0		SV0020-310 Oil free treatment for stainless steel body and Water free treatment		
Rating / Conn. Type	ANSI150		BW(Sch10s)		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem		
Body material	A351CF8				SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method		
Trim material	SUS316 STELLITE				SV0816 Impact test		
Flow characteristic	EQ%				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)		
Bonnet	EXT-2 (-196 to -45 degC)				SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English		
Actuator / Handle	PSA1R		---		Without Cover Plate		
Action	AIR TO OPEN				HART AVP SP No.2		
Gland packing / Grease	V-PTFE+TK2006		---				
Gasket	V7590,V563(PTFE)						
Air supply / Spring range	2.7bar		0.8-2.4bar				
Seat leakage	CLASS IV						
Color: Body/Diaph./Yoke	XXX		M10B5/10				
Paint	Standard						
<Accessories>							
Positioner	AVP302-LSD2D-1DYS-X						
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5						
Input signal	4-20 mA DC						
Regulator	KZ03-2B-XX		1				
Regulator2							
Limit switch							
Action							
Solenoid valve	EMET8551B405SL		1				
Action / Power	En: Control, De: Close		AC230V 50Hz				
Booster							
Air lock valve							
<Process data>							
Fluid name/Phase	N2			GAS			
	MAX	NOR	MIN	Unit			
Flow rate	80	56		m3/h(N)			
Inlet pressure	5.85	5.85		barA			
Outlet pressure	3.5	3.5		barA			
Differential press.	2.35	2.35		bar			
Shut-off press.		5.85		bar			
Temperature	-177.2	-177.2		degC			
Density/Gravity(Liq)				kg/m3			
Density/Gravity(G,V)	1.25	1.25		kg/m3(N)			
Viscosity				mPa-s			
Flash				%			
Calculated CV	0.6393	0.4461					
Travel	49	39		%			
Outlet velocity	0.02306	0.01614		Mach			
Predictive SPL	56	53		dBA			
					<Piping spec.>		
					Strength Calc. Sheet		
					Design		barG
					Temp.		-196 degC
					Size		1 in. 1 in.
					Sch No.		10S 10S
					Thickness		2.8 2.8
Yamatake Corporation							

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。



ORIENTATION
 配管取付姿勢 No. 1



TRIM STRUCTURE (EXAMPLE)
 トリム構成図 (参考)

PROD. No. :
 工事番号 :
 TAG No. : 1042FV-409

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
1	ANSI150		LOW TEMP. TYPE 低温形	PSA1R	AIR TO OPEN	20	31

Top-Guide Single-Seated Control Valve
 トップガイド形単座調節弁

MODEL No.
 AGVB

Yamatake Corporation

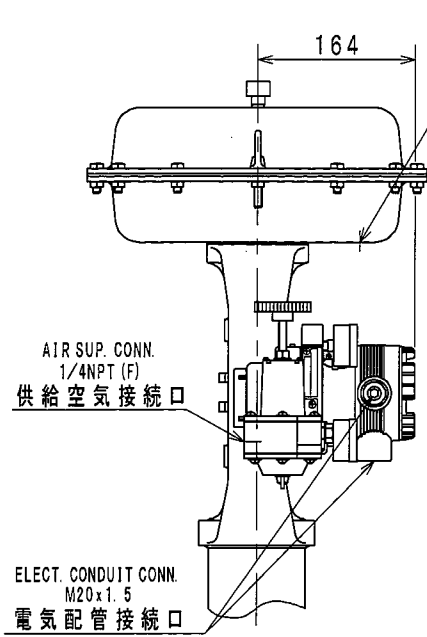
DRAWING No.
 AGVB-8A1S7E-BAR04C0

REV.
 0

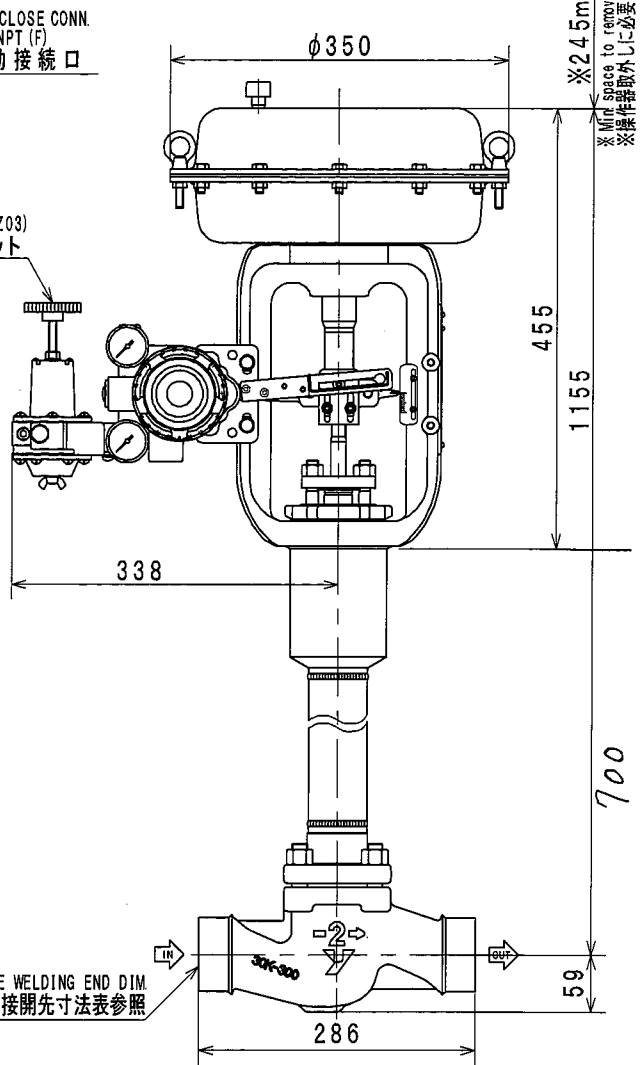
A B C D E

Item No. / Qty	6		1		Ref. No.		
Tag No.	1042HV-420				Purchaser	Air Liquide France	
Service	LIN FROM 1V04231 TO 1T04201				End user		
<Control valve>					<Remarks>		
Description					SV0703-102 Indicating unit : "bar"		
Top-Guided Single-Seat Control Valves					SV0601-001 Air piping Connection: 1/4 NPT		
Body/Port size					2 in.		1-1/4 in.
Conn. Size. / Rated CV					21		
Rating / Conn. Type					ANSI300		BW(Sch10s)
Body material					A351CF8		
Trim material					SUS316 STELLITE		
Flow characteristic					EQ%		
Bonnet					EXT-2 (-196 to -45 degC)		
Actuator / Handle					PSA3R		---
Action					AIR TO OPEN		
Gland packing / Grease					V-PTFE+TK2006		---
Gasket					V7590,V563(PTFE)		
Air supply / Spring range					2.7bar		0.8-2.4bar
Seat leakage					CLASS IV		
Color: Body/Diaph./Yoke					XXX		M10B5/10 M10B5/10
Paint					Standard		
<Accessories>					Without Cover Plate		
Positioner					AVP302-LSD2D-1DYQ-X		
Structure					ATEX Intrinsically safe, 1/4 NPT, M20x1.5		
Input signal					4-20 mADC		
Regulator					KZ03-2B-XX		1
Regulator2							
Limit switch							
Action							
Solenoid valve					EMET8551B405SL		1
Action / Power					En: Control, De: Close		AC230V 50Hz
Booster							
Air lock valve							
<Process data>					HART AVP SP No.2		
Fluid name/Phase		N2		GAS			
		MAX	NOR	MIN	Unit		
Flow rate		70		m3/h(N)			
Inlet pressure		5.9		barA			
Outlet pressure		4.74		barA			
Differential press.		1.16		bar			
Shut-off press.		3.8		MPa			
Temperature		-177.2		degC		Strength Calc. Sheet	
Density/Gravity(Liq)				kg/m3		Design	3.8 MPaG
Density/Gravity(G,V)		1.25		kg/m3(N)		Temp.	-196 degC
Viscosity				mPa-s		Size	2 in. 2 in.
Flash				%		Sch No.	10S 10S
Calculated CV		0.7102				Thickness	2.8 2.8
Travel		16		%		Yamatake Corporation	
Outlet velocity		0.003724		Mach			
Predictive SPL		50		dBA			

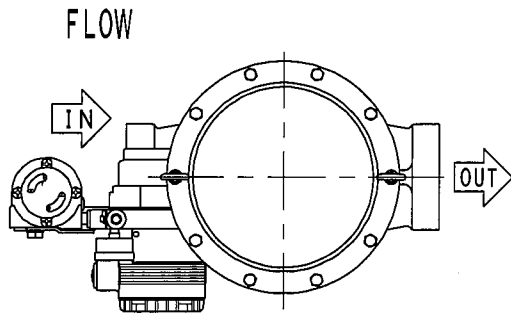
* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。



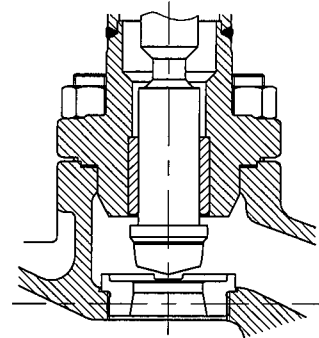
AIR SET (KZ03)
エアースット



※245min.
 ※Min. space to remove actuator
 ※操作部取外しに必要な最小寸法



ORIENTATION
配管取付姿勢 No. 1



TRIM STRUCTURE (EXAMPLE)
トリム構成図 (参考)

PROD. No.
工事番号:

TAG No. : 1042HV-420

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
2	ANSI300		LOW TEMP. TYPE 低温形	PSA3R	AIR TO OPEN	20	74

Top-Guide Single-Seated Control Valve
トップガイド形単座調節弁

MODEL No.

AGVM

Yamatake Corporation

DRAWING No.
AGVM-BA3S7E-BER04C0

REV.
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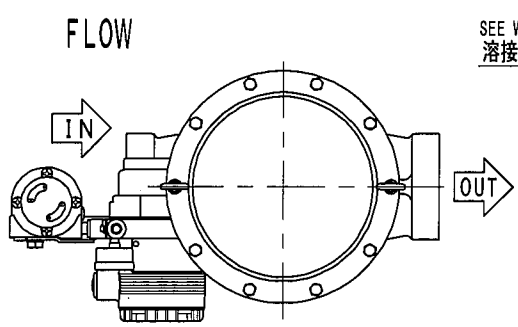
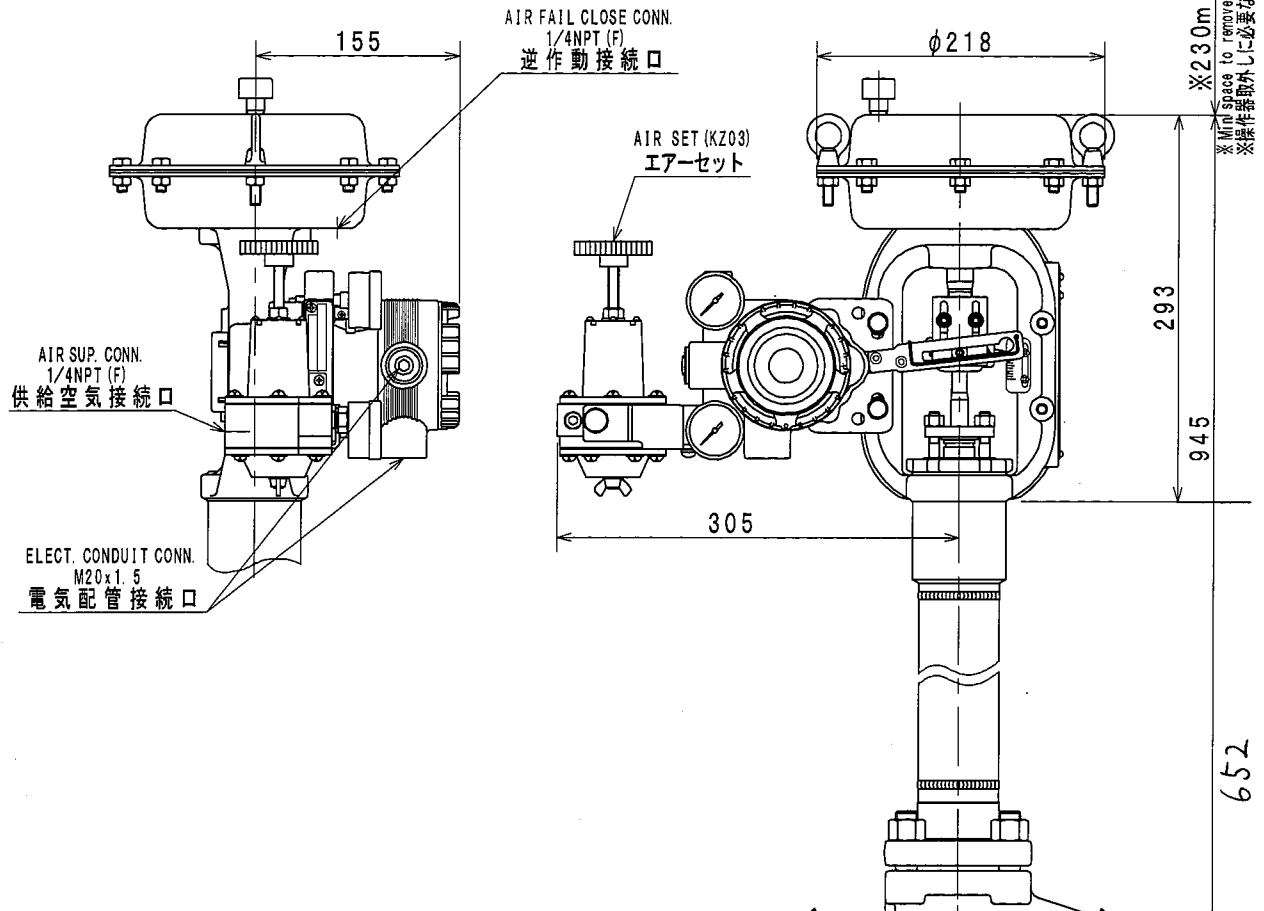
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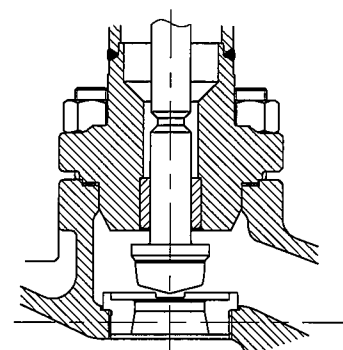
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Item No. / Qty	7	1	Ref. No.	
Tag No.	1042HV-421		Purchaser	Air Liquide France
Service	LIN FROM 1V04231 TO 1V04202		End user	
			Project	CCTF NWU
<Control valve>			<Remarks>	
Model	AGVB		SV0703-102 Indicating unit : "bar"	
Description	Top-Guided Single-Seat Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	2 in.	1-1/4 in.	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		21	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI150	BW(Sch10s)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF8		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316 STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -45 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	PSA1R	---	Without Cover Plate	
Action	AIR TO OPEN		HART AVP SP No.2	
Gland packing / Grease	V-PTFE+TK2006	---		
Gasket	V7590,V563(PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10	M10B5/10	
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYS-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX	1		
Regulator2				
Limit switch				
Action				
Solenoid valve	EMET8551B405SL	1		
Action / Power	En: Control, De: Close	AC230V 50Hz		
Booster				
Air lock valve				
<Process data>				
Fluid name/Phase	N2		GAS	
	MAX	NOR	MIN	Unit
Flow rate		198		m3/h(N)
Inlet pressure		5.9		barA
Outlet pressure		2.2		barA
Differential press.		3.7		bar
Shut-off press.		5.9		bar
Temperature		-177.2		degC
Density/Gravity(Liq)				kg/m3
Density/Gravity(G,V)		1.25		kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV		1.416		
Travel		31		%
Outlet velocity		0.0227		Mach
Predictive SPL		66		dBA
			<Piping spec.>	
			Strength Calc. Sheet	
			Design	barG
			Temp.	-196 degC
			Size	2 in. 2 in.
			Sch No.	10S 10S
			Thickness	2.8 2.8
Yamatake Corporation				

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。



ORIENTATION
 配管取付姿勢 No. 1



TRIM STRUCTURE (EXAMPLE)
 トリム構成図 (参考)

PROD. No. :
 工事番号 :
 TAG No. : 1042HV-421

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
2	ANSI 150		LOW TEMP. TYPE 低温形	PSA1R	AIR TO OPEN	20	42

Top-Guide Single-Seated Control Valve
 トップガイド形単座調節弁

MODEL No.
 AGVB

Yamatake Corporation

DRAWING No.
 AGVB-BA1S7E-BAR04C0

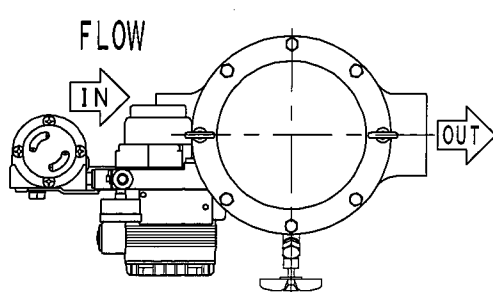
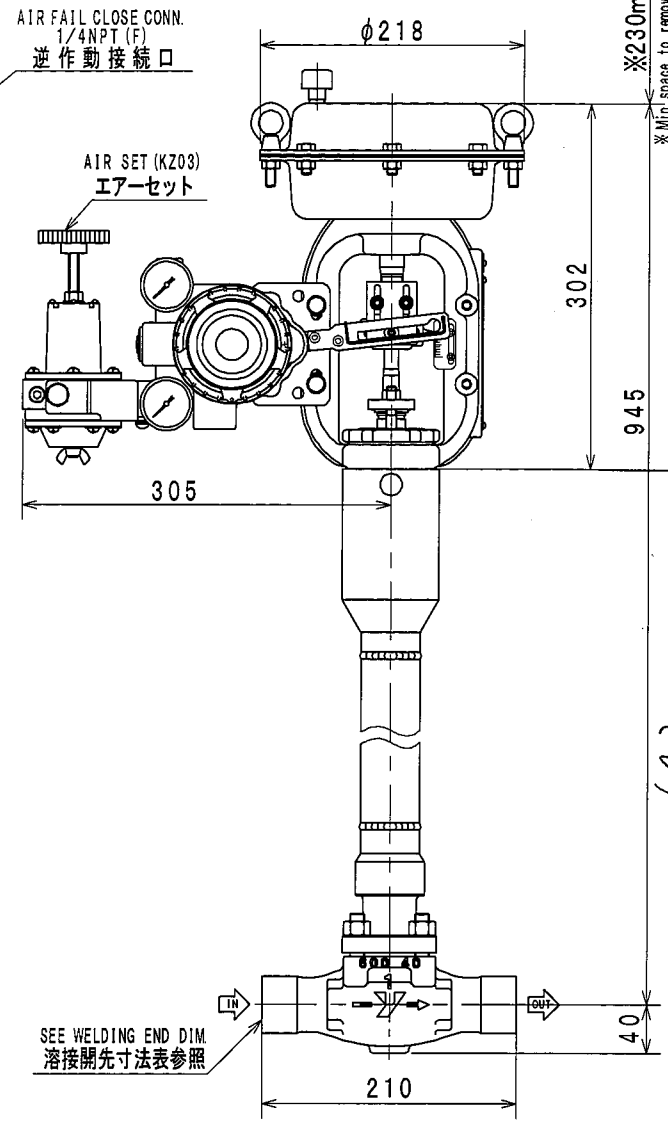
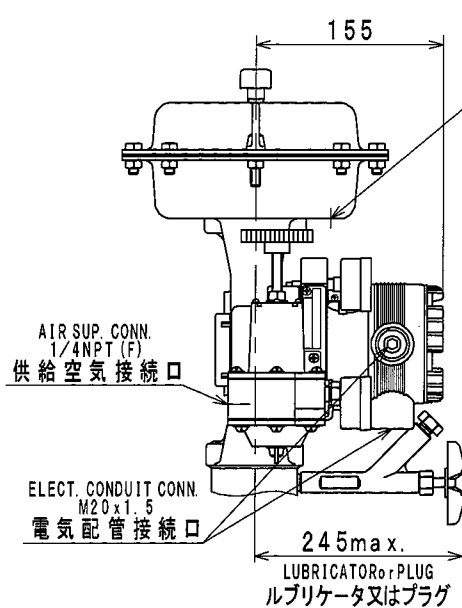
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A B C D E

Item No. / Qty	8		1		Ref. No.			
Tag No.	1042LV-222				Purchaser	Air Liquide France		
Service	1V04208 LEVEL				End user			
					Project	CCTF NWU		
<Control valve>					<Remarks>			
Model	HLS				SV0703-102 Indicating unit : "bar"			
Description	Small-Port Single Seated Control Valves				SV0601-001 Air piping Connection: 1/4 NPT			
Body/Port size	1 in.		Cv=0.25		SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)			
Conn. Size. / Rated CV			0.25		SV0020-310 Oil free treatment for stainless steel body and Water free treatment			
Rating / Conn. Type	ANSI300		BW(Sch40)		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem			
Body material	A351CF8				SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method			
Trim material	SUS316 STELLITE				SV0816 Impact test			
Flow characteristic	EQ%				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)			
Bonnet	EXT-2 (-196 to -100 degC)				SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English			
Actuator / Handle	PSA1R		---		SV0402-001 Packing follower with O-ring			
Action	AIR TO OPEN				Without Cover Plate			
Gland packing / Grease	V-PTFE+TK2006		---		HART AVP SP No.2			
Gasket	V543(PTFE),V563(PTFE)							
Air supply / Spring range	2.7bar		0.8-2.4bar					
Seat leakage	CLASS IV							
Color: Body/Diaph./Yoke	XXX		M10B5/10	M10B5/10				
Paint	Standard							
<Accessories>								
Positioner	AVP302-LSD2D-1DYS-X							
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5							
Input signal	4-20 mADC							
Regulator	KZ03-2B-XX			1				
Regulator2								
Limit switch								
Action								
Solenoid valve	EMET8551B405SL			1				
Action / Power	En: Control, De: Close		AC230V 50Hz					
Booster								
Air lock valve								
<Process data>								
Fluid name/Phase	SGL			GAS				
	MAX	NOR	MIN	Unit				
Flow rate		14	7	m3/h(N)				
Inlet pressure		31.1	31.1	barA				
Outlet pressure		2.5	2.5	barA				
Differential press.		28.6	28.6	bar				
Shut-off press.		0.5		MPa				
Temperature		-132.4	-132.4	degC				
Density/Gravity(Liq)				kg/m3				
Density/Gravity(G,V)		0.672	0.672	kg/m3(N)				
Viscosity				mPa-s				
Flash				%				
Calculated CV		0.01662	0.008176					
Travel		26		%				
Outlet velocity		0.005016	0.002508	Mach				
Predictive SPL		52	50	dBA				
					<Piping spec.>			
					Strength Calc. Sheet			
					Design		0.5	MPaG
					Temp.		-196	degC
					Size		1 in.	1 in.
					Sch No.		10S	10S
					Thickness		2.8	2.8
					Yamatake Corporation			

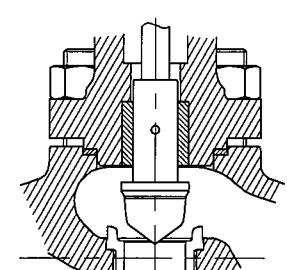
* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。

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ORIENTATION
配管取付姿勢 No. 1

SEE WELDING END DIM.
溶接開先寸法表参照



TRIM STRUCTURE (EXAMPLE)
トリム構成図 (参考)

PROD. No. :
 工事番号 :
 TAG No. : 1042LV-222

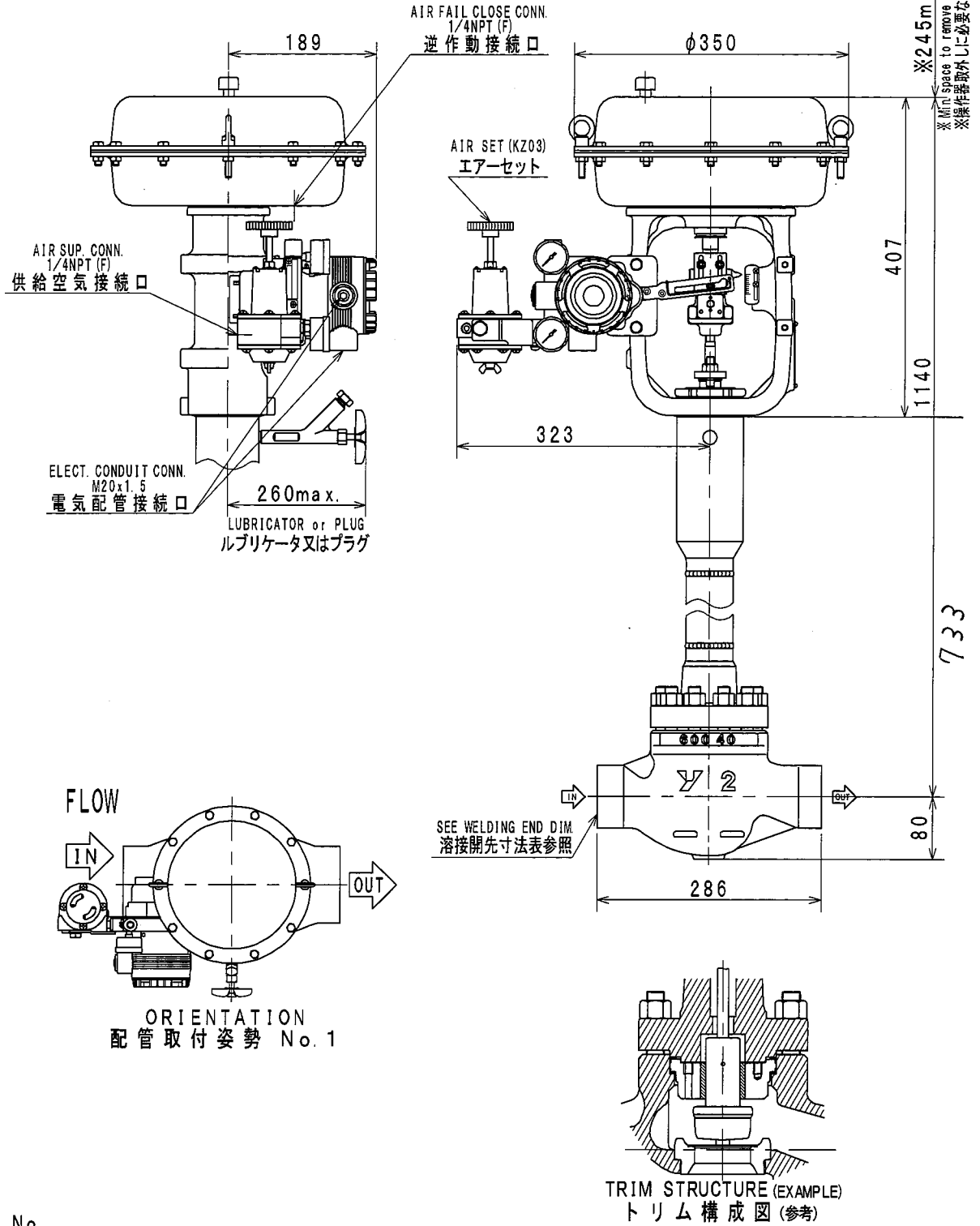
UNIT : mm

NOMINAL SIZE (INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量 (kg)
1	ANSI 300		LOW TEMP. TYPE 低温形	PSA1R	AIR TO OPEN	14.3	32
Small-Port Single-Seated Control Valve 小口径形単座調節弁					MODEL No. HLS		
Yamatake Corporation					DRAWING No. HLS-8A3S7E-BAR04C0		REV. 0

A B C D E

Item No. / Qty	9		1		Ref. No.			
Tag No.	1042LV-320				Purchaser	Air Liquide France		
Service	1V04203 LEVEL				End user			
					Project	CCTF NWU		
<Control valve>					<Remarks>			
Model	HTS				SV0703-102 Indicating unit : "bar"			
Description	Top-Guided Single Seated Control Valves				SV0601-001 Air piping Connection: 1/4 NPT			
Body/Port size	2 in.		1-1/4 in.		SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)			
Conn. Size. / Rated CV			17		SV0020-310 Oil free treatment for stainless steel body and Water free treatment			
Rating / Conn. Type	ANSI300		BW(Sch40)		SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem			
Body material	A351CF3M				SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method			
Trim material	SUS316L STELLITE				SV0816 Impact test			
Flow characteristic	EQ%				SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)			
Bonnet	EXT-2 (-196 to -100 degC)				SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English			
Actuator / Handle	HA3R		---		SV0402-001 Packing follower with O-ring			
Action	AIR TO OPEN				Without Cover Plate			
Gland packing / Grease	V-PTFE+TK2006		---		HART AVP SP No.2			
Gasket	V544(316L+PTFE),V564(316L+PTFE)							
Air supply / Spring range	2.7bar		0.8-2.4bar					
Seat leakage	CLASS IV							
Color: Body/Diaph./Yoke	XXX		M10B5/10					
Paint	Standard							
<Accessories>								
Positioner	AVP302-LSD2D-1DYT-X							
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5							
Input signal	4-20 mADC							
Regulator	KZ03-2B-XX				1			
Regulator2								
Limit switch								
Action								
Solenoid valve	EMET8551B405SL				1			
Action / Power	En: Control, De: Close		AC230V 50Hz					
Booster								
Air lock valve								
<Process data>								
Fluid name/Phase	SGL			GAS				
	MAX	NOR	MIN	Unit				
Flow rate	503	458	229	m3/h(N)				
Inlet pressure	30.9	30.9	30.9	barA				
Outlet pressure	4.13	4.13	4.13	barA				
Differential press.	26.77	26.77	26.77	bar				
Shut-off press.	3.9			MPa				
Temperature	-182	-182	-182	degC	Strength Calc. Sheet			
Density/Gravity(Liq)				kg/m3	Design		3.9	MPaG
Density/Gravity(G,V)	0.408	0.408	0.408	kg/m3(N)	Temp.		-196	degC
Viscosity				mPa-s	Size		4 in.	2 in.
Flash				%	Sch No.		10S	10S
Calculated CV	0.3694	0.3357	0.1661		Thickness		3	2.8
Travel	8			%	Yamatake Corporation			
Outlet velocity	0.0171	0.01557	0.007786	Mach				
Predictive SPL	74	73	67	dBA				
					<Piping spec.>			

* The drawing shall be handled as reference.
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PROD. No. :
 工事番号 :
 TAG No. : 1042LV-320

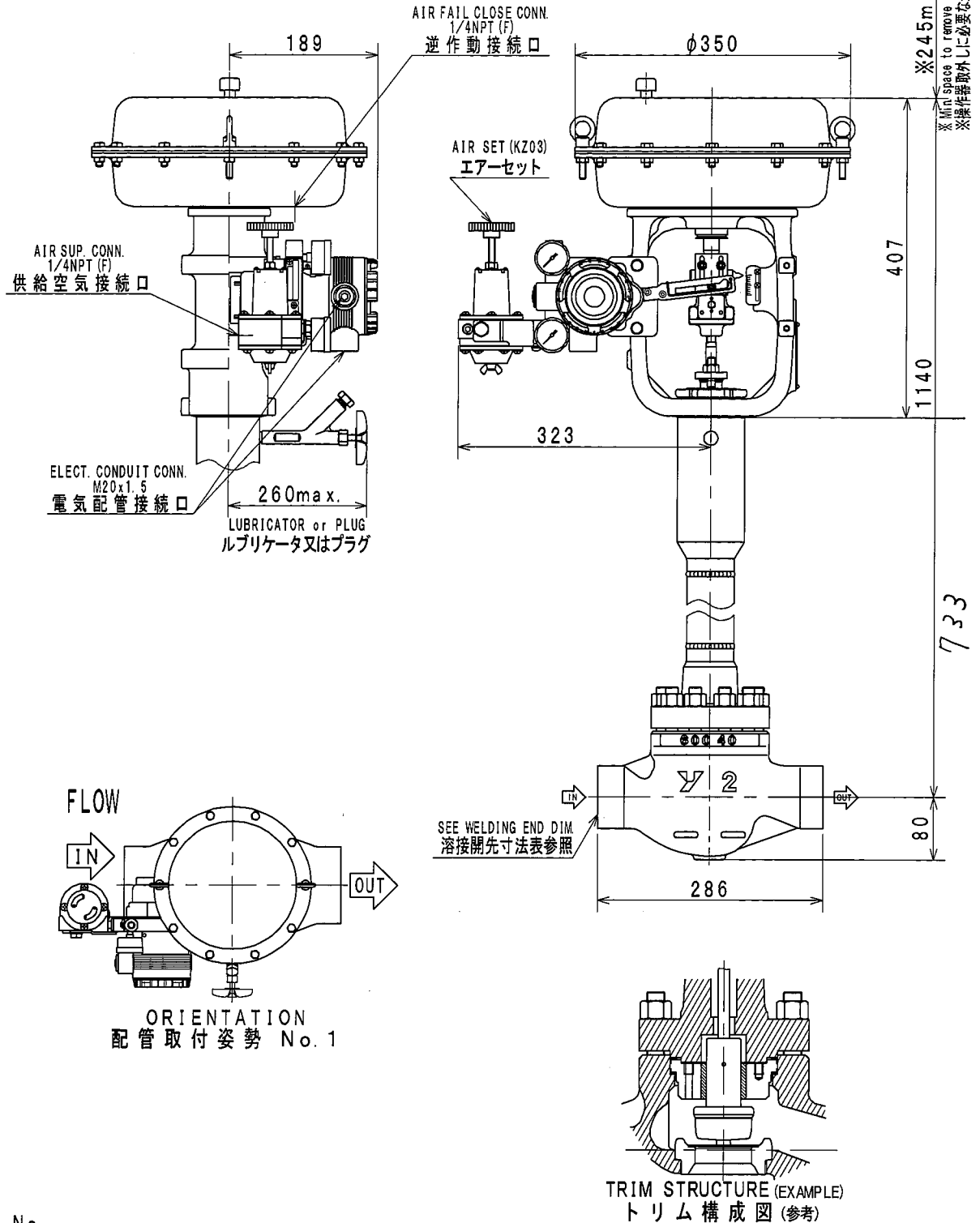
UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
2	ANSI300		LOW TEMP. TYPE 低温形	HA3R	AIR TO OPEN	25	70
Top-Guide Single-Seated Control Valve トップガイド形単座調節弁					MODEL No. HTS		
Yamatake Corporation					DRAWING No. HTS-BA3S7E-VER04C0		REV. 0

A B C D E

Item No. / Qty	10	1	Ref. No.	
Tag No.	1042LV-321		Purchaser	Air Liquide France
Service	1T04201 LEVEL		End user	
			Project	CCTF NWU
<Control valve>			<Remarks>	
Model	HTS		SV0703-102 Indicating unit : "bar"	
Description	Top-Guided Single Seated Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	2 in.	1-1/4 in.	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		17	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI300	BW(Sch40)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF3M		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316L STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -100 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	HA3R	---	SV0402-001 Packing follower with O-ring	
Action	AIR TO OPEN		Without Cover Plate	
Gland packing / Grease	V-PTFE+TK2006	---	HART AVP SP No.2	
Gasket	V544(316L+PTFE),V564(316L+PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10	M10B5/10	
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYT-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX		1	
Regulator2				
Limit switch				
Action				
Solenoid valve	EMET8551B405SL		1	
Action / Power	En: Control, De: Close	AC230V 50Hz		
Booster				
Air lock valve				
<Process data>				
Fluid name/Phase	SGL		GAS	
	MAX	NOR	MIN	Unit
Flow rate	806	733	366	m3/h(N)
Inlet pressure	30.9	30.9	30.9	barA
Outlet pressure	6.84	6.84	6.84	barA
Differential press.	24.06	24.06	24.06	bar
Shut-off press.	3.9			MPa
Temperature	-190.4	-190.4	-190.4	degC
Density/Gravity(Liq)				kg/m3
Density/Gravity(G,V)	0.404	0.404	0.404	kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV	0.564	0.5116	0.2525	
Travel	13	12		%
Outlet velocity	0.01569	0.01427	0.007124	Mach
Predictive SPL	74	73	67	dBA
			<Piping spec.>	
			Strength Calc. Sheet	
			Design	3.9 MPaG
			Temp.	-196 degC
			Size	4 in. 2 in.
			Sch No.	10S 10S
			Thickness	3 2.8
Yamatake Corporation				

* The drawing shall be handled as reference.
* この図面は参考情報として取扱いをお願いします。



PROD. No. :
工事番号 :
TAG No. : 1042LV-321

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
2	ANSI300		LOW TEMP. TYPE 低温形	HA3R	AIR TO OPEN	25	70

Top-Guide Single-Seated Control Valve
トップガイド形単座調節弁

MODEL No.
HTS

Yamatake Corporation

DRAWING No.
HTS-BA3S7E-VER04C0

REV.
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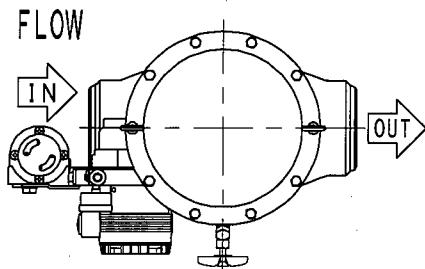
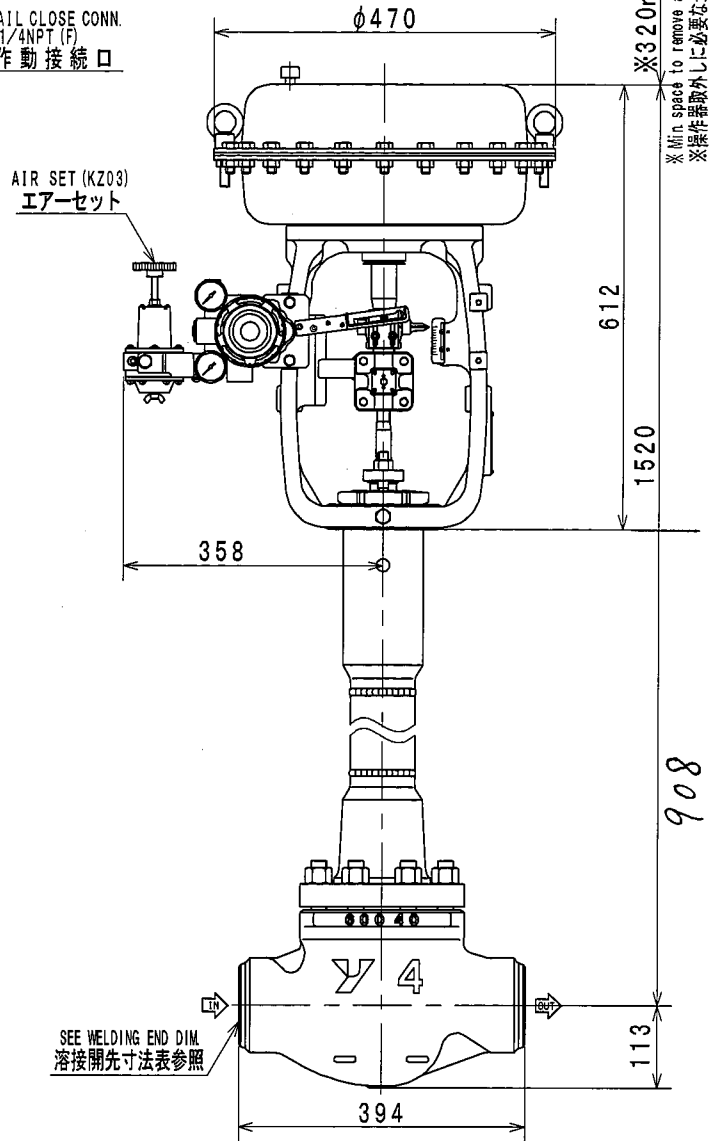
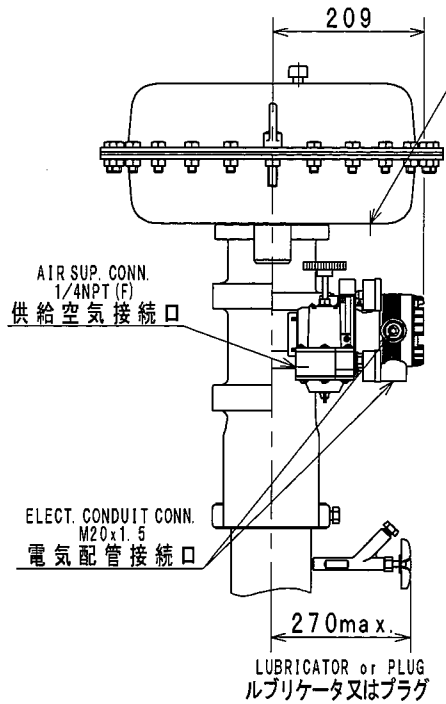
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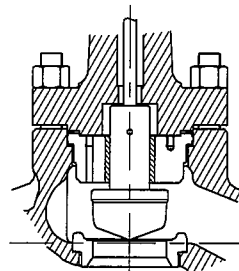
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Item No. / Qty	11	1	Ref. No.	
Tag No.	1042LV-322		Purchaser	Air Liquide France
Service	1T04202 LEVEL		End user	
			Project	CCTF NWU
<Control valve>			<Remarks>	
Model	HTS		SV0703-102 Indicating unit : "bar"	
Description	Top-Guided Single Seated Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	4 in.	4 in.	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		200	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI150	BW(Sch40)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF3M		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316L STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -100 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	HA4R	---	SV0402-001 Packing follower with O-ring	
Action	AIR TO OPEN		Without Cover Plate	
Gland packing / Grease	V-PTFE+TK2006	---	HART AVP SP No.2	
Gasket	V544(316L+PTFE),V564(316L+PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10	M10B5/10	
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYN-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX		1	
Regulator2				
Limit switch				
Action				
Solenoid valve	EMET8551B405SL		1	
Action / Power	En: Control, De: Close	AC230V 50Hz		
Booster				
Air lock valve				
<Process data>			<Piping spec.>	
Fluid name/Phase	SGL		GAS	
	MAX	NOR	MIN	Unit
Flow rate	498	453	226	m3/h(N)
Inlet pressure	3	3	3	barA
Outlet pressure	2.27	2.27	2.27	barA
Differential press.	0.73	0.73	0.73	bar
Shut-off press.		0.6		MPa
Temperature	-190.4	-190.4	-190.4	degC
Density/Gravity(Liq)				kg/m3
Density/Gravity(G,V)	0.808	0.808	0.808	kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV	6.814	6.195	3.082	
Travel	10	9		%
Outlet velocity	0.01033	0.009393	0.004686	Mach
Predictive SPL	61	60	55	dBA
			Strength Calc. Sheet	
Design		0.6	MPaG	
Temp.		-196	degC	
Size		4 in.	3 in.	
Sch No.		10S	10S	
Thickness		3	3	
Yamatake Corporation				

* The drawing shall be handled as reference.
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ORIENTATION
配管取付姿勢 No. 1



TRIM STRUCTURE (EXAMPLE)
トリム構成図 (参考)

PROD. No.
工事番号:

TAG No. : 1042LV-322

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
4	ANSI150		LOW TEMP. TYPE 低温形	HA4R	AIR TO OPEN	38	144

Top-Guide Single-Seated Control Valve
トップガイド形単座調節弁

MODEL No.

HTS

Yamatake Corporation

DRAWING No.
HTS-EA1B7E-VGR04C0

REV.
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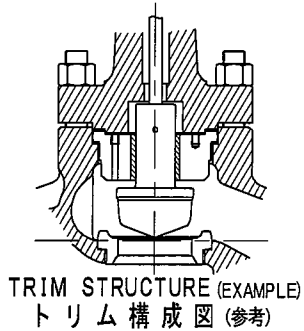
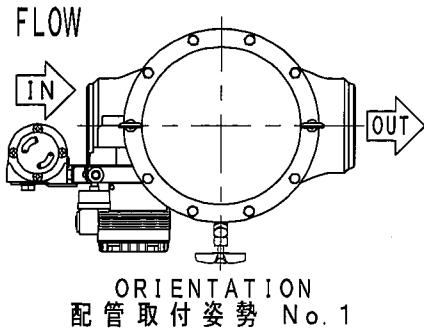
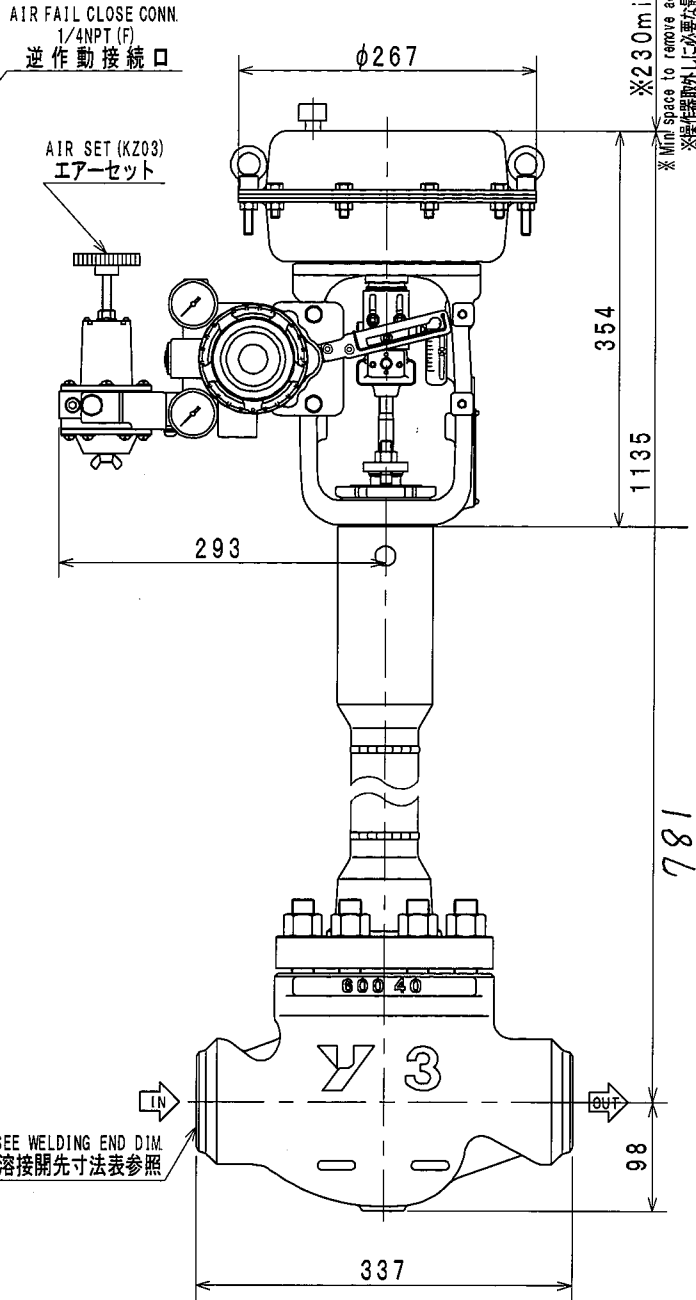
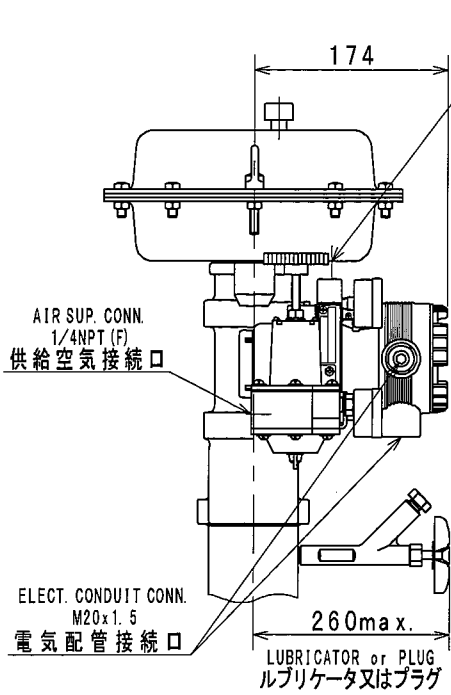
D

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Item No. / Qty	12	1	Ref. No.	
Tag No.	1042LV-325A		Purchaser	Air Liquide France
Service	1V04209 LEVEL		End user	
			Project	CCTF NWU
<Control valve>			<Remarks>	
Model	HTS		SV0703-102 Indicating unit : "bar"	
Description	Top-Guided Single Seated Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	3 in.	2 in.	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		44	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI150	BW(Sch40)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF3M		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316L STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -100 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	HA2R	---	SV0402-001 Packing follower with O-ring	
Action	AIR TO OPEN		Without Cover Plate	
Gland packing / Grease	V-PTFE+TK2006	---	HART AVP SP No.2	
Gasket	V544(316L+PTFE),V564(316L+PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10	M10B5/10	
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYT-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX			1
Regulator2				
Limit switch				
Action				
Solenoid valve	EMET8551B405SL			1
Action / Power	En: Control, De: Close		AC230V 50Hz	
Booster				
Air lock valve				
<Process data>				
Fluid name/Phase	SGL			LIQUID
	MAX	NOR	MIN	Unit
Flow rate	11615	10559	5280	L/h
Inlet pressure	6.39	6.39	6.39	barA
Outlet pressure	6.01	6.01	6.01	barA
Differential press.	0.38	0.38	0.38	bar
Shut-off press.		0.7		MPa
Temperature	-190.8	-190.8	-190.8	degC
Density/Gravity(Liq)	748.5	748.5	748.5	kg/m3
Density/Gravity(G,V)				kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV	18.85	17.13	8.567	
Travel	75	72	51	%
Inlet velocity	0.7307	0.6642	0.3322	m/s
Predictive SPL	52	51	50	dBA
<Piping spec.>				
Strength Calc. Sheet				
Design		0.7		MPaG
Temp.		-196		degC
Size		3 in.		3 in.
Sch No.		10S		10S
Thickness		3		3
Yamatake Corporation				

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。

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PROD. No. :
 工事番号 :
 TAG No. : 1042LV-325A

UNIT : mm

NOMINAL SIZE (INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量 (kg)
3	ANSI 150		LOW TEMP. TYPE 低温形	HA2R	AIR TO OPEN	38	86

Top-Guide Single-Seated Control Valve
 トップガイド形単座調節弁

MODEL No.
 HTS

Yamatake Corporation

DRAWING No.
 HTS-DA1B7E-VCR04C0

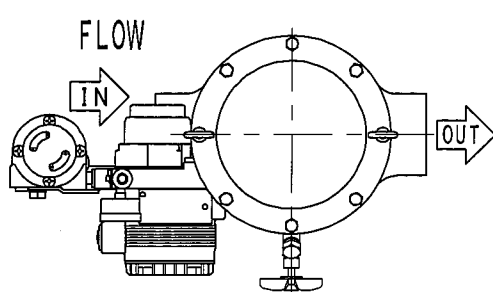
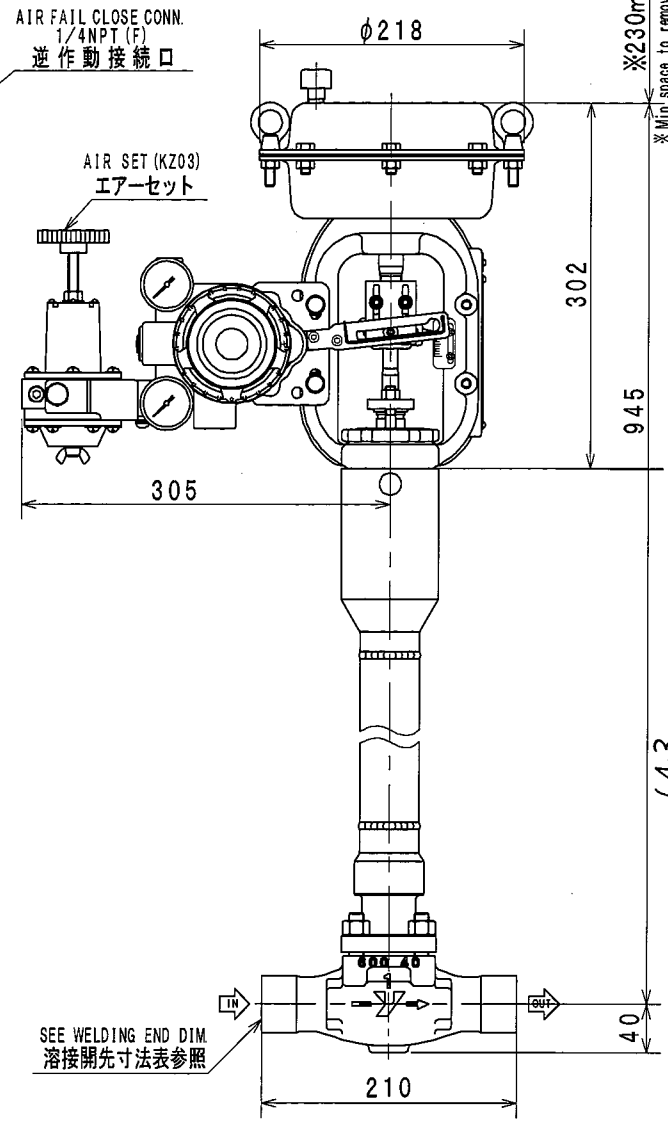
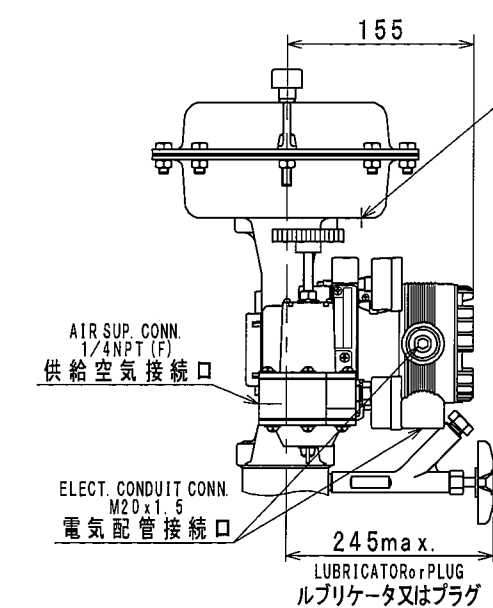
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A B C D E

Item No. / Qty	13	1	Ref. No.	
Tag No.	1042LV-325B		Purchaser	Air Liquide France
Service	1V04209 LEVEL		End user	
			Project	CCTF NWU
<Control valve>			<Remarks>	
Model	HLS		SV0703-102 Indicating unit : "bar"	
Description	Small-Port Single Seated Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	1 in.	Cv=10	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		10	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI150	BW(Sch40)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF3M		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316L STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -100 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	PSA1R	---	SV0402-001 Packing follower with O-ring	
Action	AIR TO OPEN		Without Cover Plate	
Gland packing / Grease	V-PTFE+TK2006	---	HART AVP SP No.2	
Gasket	V544(316L+PTFE),V564(316L+PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10	M10B5/10	
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYS-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX	1		
Regulator2				
Limit switch				
Action				
Solenoid valve	EMET8551B405SL	1		
Action / Power	En: Control, De: Close	AC230V 50Hz		
Booster				
Air lock valve				
<Process data>				
Fluid name/Phase	SGL		GAS	
	MAX	NOR	MIN	Unit
Flow rate	36	32	16	m3/h(N)
Inlet pressure	6	6	6.4	barA
Outlet pressure	3.5	3.5	3.5	barA
Differential press.	2.5	2.5	2.9	bar
Shut-off press.		0.7		MPa
Temperature	-190.8	-190.8	-190.8	degC
Density/Gravity(Liq)				kg/m3
Density/Gravity(G,V)	0.655	0.655	0.655	kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV	0.183	0.1625	0.07415	
Travel				%
Outlet velocity	0.006958	0.006185	0.003092	Mach
Predictive SPL	50	50	50	dBA
			<Piping spec.>	
			Strength Calc. Sheet	
			Design	0.7 MPaG
			Temp.	-196 degC
			Size	2 in. 1 in.
			Sch No.	10S 10S
			Thickness	2.8 2.8
Yamatake Corporation				

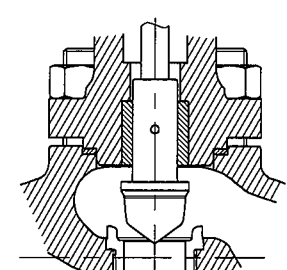
* The drawing shall be handled as reference.
* この図面は参考情報として取扱いをお願いします。

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ORIENTATION
配管取付姿勢 No. 1

SEE WELDING END DIM
溶接開先寸法表参照



TRIM STRUCTURE (EXAMPLE)
トリム構成図 (参考)

PROD. No. :
工事番号 :
TAG No. : 1042LV-325B

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
1	ANSI 150		LOW TEMP. TYPE 低温形	PSA1R	AIR TO OPEN	14.3	32

Small-Port Single-Seated Control Valve
小口径形単座調節弁

MODEL No.
HLS

Yamatake Corporation

DRAWING No.
HLS-8A1S7E-BAR04C0

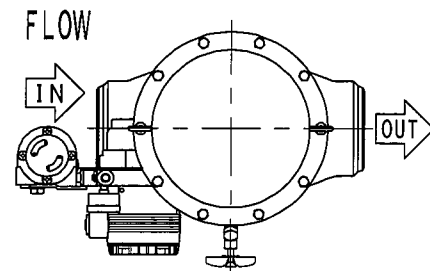
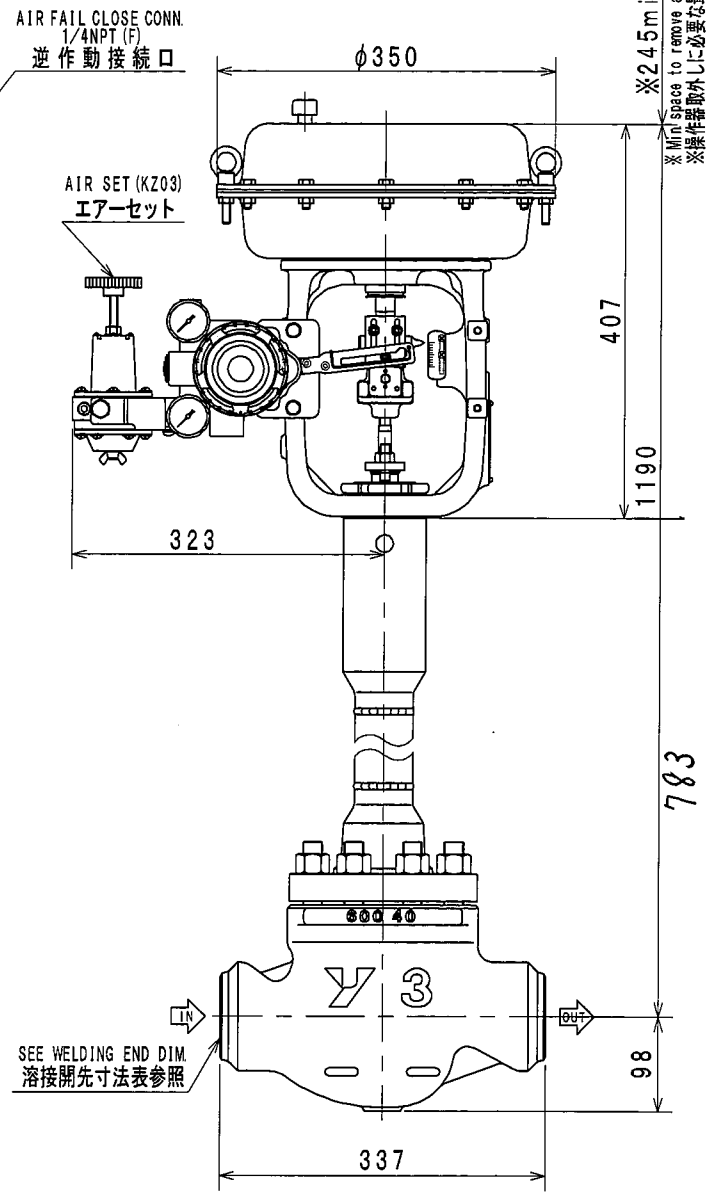
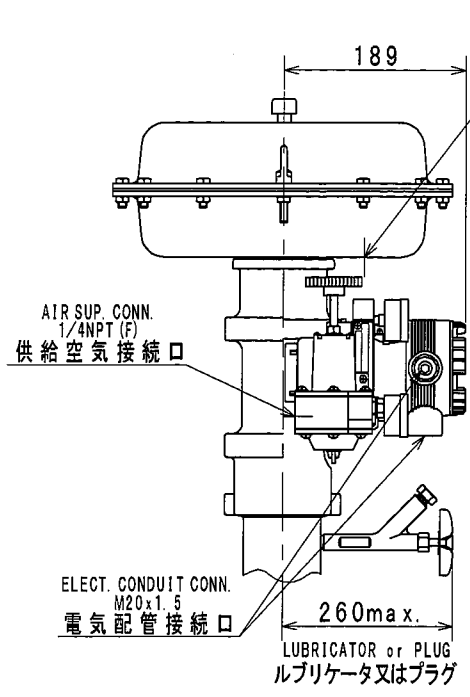
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A B C D E

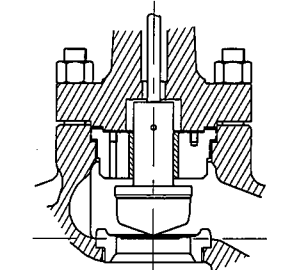
Item No. / Qty	14	1	Ref. No.	
Tag No.	1042PV-106C		Purchaser	Air Liquide France
Service	WG FROM 1T04202 TO CV		End user	
			Project	CCTF NWU
<Control valve>			<Remarks>	
Model	HTS		SV0703-102 Indicating unit : "bar"	
Description	Top-Guided Single Seated Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	3 in.	3 in.	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		125	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI150	BW(Sch40)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF3M		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316L STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -100 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	HA3R	---	SV0402-001 Packing follower with O-ring	
Action	AIR TO OPEN		Without Cover Plate	
Gland packing / Grease	V-PTFE	---	HART AVP SP No.2	
Gasket	V544(316L+PTFE),V564(316L+PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10		
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYT-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX	1		
Regulator2				
Limit switch				
Action				
Solenoid valve				
Action / Power				
Booster				
Air lock valve				
<Process data>				
Fluid name/Phase	SG		GAS	
	MAX	NOR	MIN	Unit
Flow rate		12200		m3/h(N)
Inlet pressure		3.2		barA
Outlet pressure		1.4		barA
Differential press.		1.8		bar
Shut-off press.		0.5		MPa
Temperature		-182		degC
Density/Gravity(Liq)				kg/m3
Density/Gravity(G,V)		0.138		kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV		54.31		
Travel		58		%
Outlet velocity		0.3163		Mach
Predictive SPL		90		dBA
			<Piping spec.>	
			Strength Calc. Sheet	
			Design	0.5 MPaG
			Temp.	-196 degC
			Size	
			Sch No.	
			Thickness	
Yamatake Corporation				

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。

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ORIENTATION
配管取付姿勢 No. 1



PROD. No.
工事番号 :
TAG No. : 1042PV-106C

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
3	ANSI150		LOW TEMP. TYPE 低温形	HA3R	AIR TO OPEN	38	98

Top-Guide Single-Seated Control Valve
トップガイド形単座調節弁

MODEL No.
HTS

Yamatake Corporation

DRAWING No.
HTS-DA1B7E-VER04C0

REV.
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A B C D E

Item No. / Qty	15	1	Ref. No.	
Tag No.	1042PV-310A		Purchaser	Air Liquide France
Service	FG FROM 1V04209 TO 1E04202A/B		End user	
			Project	CCTF NWU
<Control valve>			<Remarks>	
Model	HTS		SV0703-102 Indicating unit : "bar"	
Description	Top-Guided Single Seated Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	2 in.	1-1/4 in.	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		17	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI150	BW(Sch40)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF3M		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316L STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -100 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	PSA1R	---	SV0402-001 Packing follower with O-ring	
Action	AIR TO OPEN		Without Cover Plate	
Gland packing / Grease	V-PTFE+TK2006	---	HART AVP SP No.2	
Gasket	V544(316L+PTFE),V564(316L+PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10		
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYS-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX	1		
Regulator2				
Limit switch				
Action				
Solenoid valve	EMET8551B405SL	1		
Action / Power	En: Control, De: Close	AC230V 50Hz		
Booster				
Air lock valve				
<Process data>				
Fluid name/Phase	SG		GAS	
	MAX	NOR	MIN	Unit
Flow rate	825	750	375	m3/h(N)
Inlet pressure	6	6	6	barA
Outlet pressure	3	3	3	barA
Differential press.	3	3	3	bar
Shut-off press.	0.6			MPa
Temperature	-190.8	-190.8	-190.8	degC
Density/Gravity(Liq)				kg/m3
Density/Gravity(G,V)	0.404	0.404	0.404	kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV	3.216	2.918	1.448	
Travel	51	48	32	%
Outlet velocity	0.03652	0.0332	0.0166	Mach
Predictive SPL	72	71	65	dBA
			<Piping spec.>	
			Strength Calc. Sheet	
			Design	0.6 MPaG
			Temp.	-196 degC
			Size	4 in. 2 in.
			Sch No.	10S 10S
			Thickness	3 2.8
Yamatake Corporation				

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。

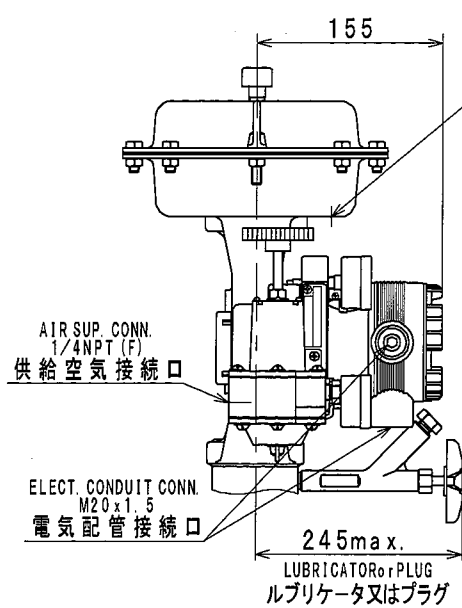
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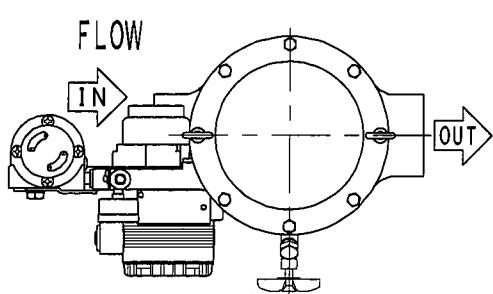
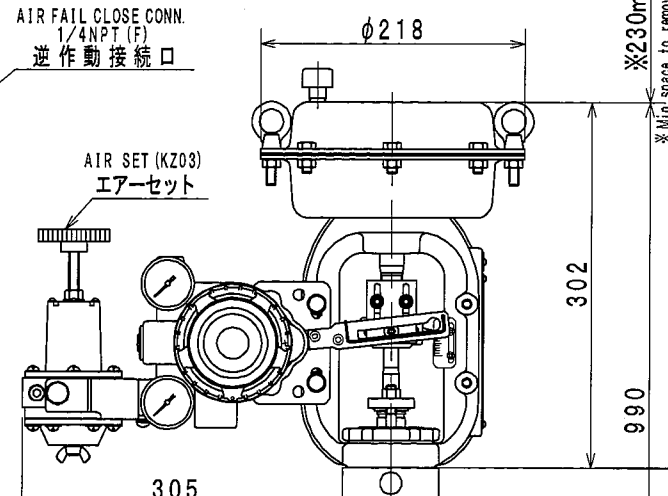
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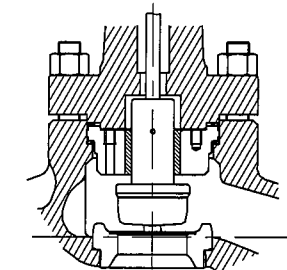
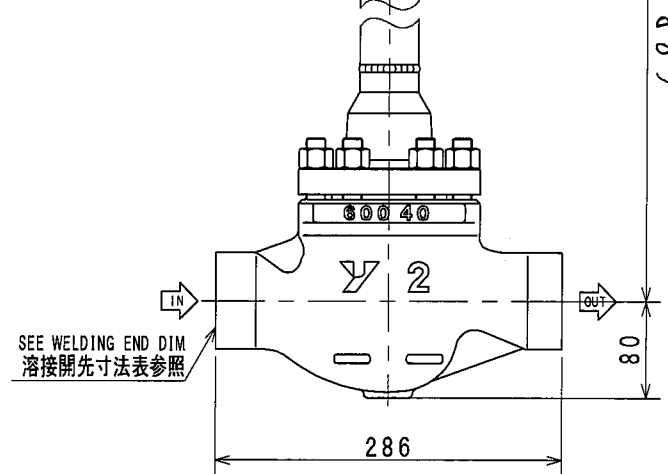
AIR FAIL CLOSE CONN. 1/4NPT (F)
逆作動接続口

AIR SET (KZ03)
エアセット



ORIENTATION
配管取付姿勢 No. 1

SEE WELDING END DIM
溶接端先寸法表参照



TRIM STRUCTURE (EXAMPLE)
トリム構成図 (参考)

PROD. No. :
 工事番号 :
 TAG No. : 1042PV-310A

UNIT : mm

NOMINAL SIZE (INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量 (kg)
2	ANSI 150		LOW TEMP. TYPE 低温形	PSA1R	AIR TO OPEN	25	51

Top-Guide Single-Seated Control Valve
 トップガイド形単座調節弁

MODEL No.
 HTS

Yamatake Corporation

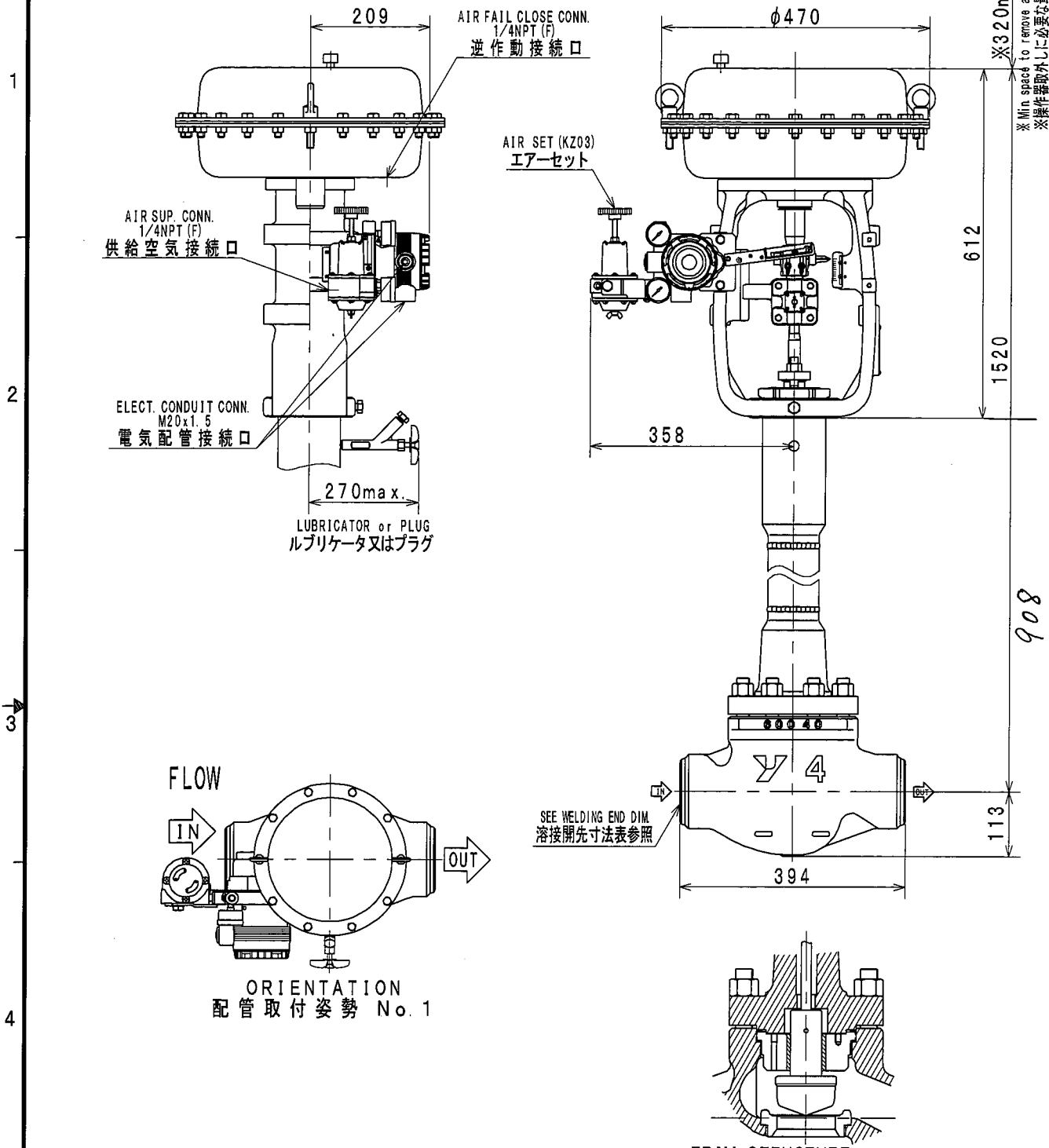
DRAWING No.
 HTS-BA1S7E-BAR04C0

REV.
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A B C D E

Item No. / Qty	16	1	Ref. No.	
Tag No.	1042PV-310B		Purchaser	Air Liquide France
Service	FG FROM 1V04209 TO 1E04202A/B		End user	
			Project	CCTF NWU
<Control valve>			<Remarks>	
Model	HTS		SV0703-102 Indicating unit : "bar"	
Description	Top-Guided Single Seated Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	4 in.	4 in.	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		200	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI150	BW(Sch40)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF3M		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316L STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -100 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	HA4R	---	SV0402-001 Packing follower with O-ring	
Action	AIR TO OPEN		Without Cover Plate	
Gland packing / Grease	V-PTFE+TK2006	---	HART AVP SP No.2	
Gasket	V544(316L+PTFE),V564(316L+PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10	M10B5/10	
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYN-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX	1		
Regulator2				
Limit switch				
Action				
Solenoid valve				
Action / Power				
Booster				
Air lock valve				
<Process data>			<Piping spec.>	
Fluid name/Phase	SG		GAS	
	MAX	NOR	MIN	Unit
Flow rate		21472		m3/h(N)
Inlet pressure		6.2		barA
Outlet pressure		1.4		barA
Differential press.		4.8		bar
Shut-off press.		0.6		MPa
Temperature		-182		degC
Density/Gravity(Liq)				kg/m3
Density/Gravity(G,V)		0.138		kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV		47.73		
Travel		43		%
Outlet velocity		0.3131		Mach
Predictive SPL		102		dB
			Strength Calc. Sheet	
	Design	0.6	MPaG	
	Temp.	-196	degC	
	Size	4 in.	4 in.	
	Sch No.	10S	10S	
	Thickness	3	3	
Yamatake Corporation				

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。



※320min.
 ※ Min. speed to remove actuator
 ※ 動作速度を外しに必要な最小寸法

PROD. No. :
 工事番号 :
 TAG No. : 1042PV-310B

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
4	ANSI150		LOW TEMP. TYPE 低温形	HA4R	AIR TO OPEN	38	144

Top-Guide Single-Seated Control Valve
 トップガイド形単座調節弁

MODEL No.

HTS

Yamatake Corporation

DRAWING No.
 HTS-EA1B7E-VGR04C0

REV.
 0

A B C D E

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。

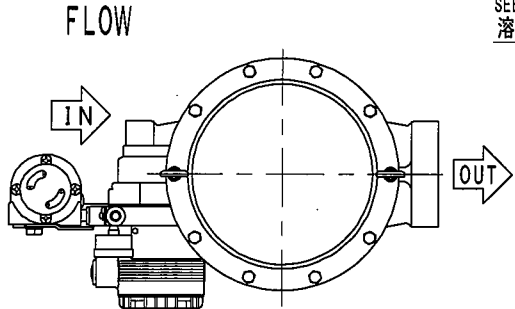
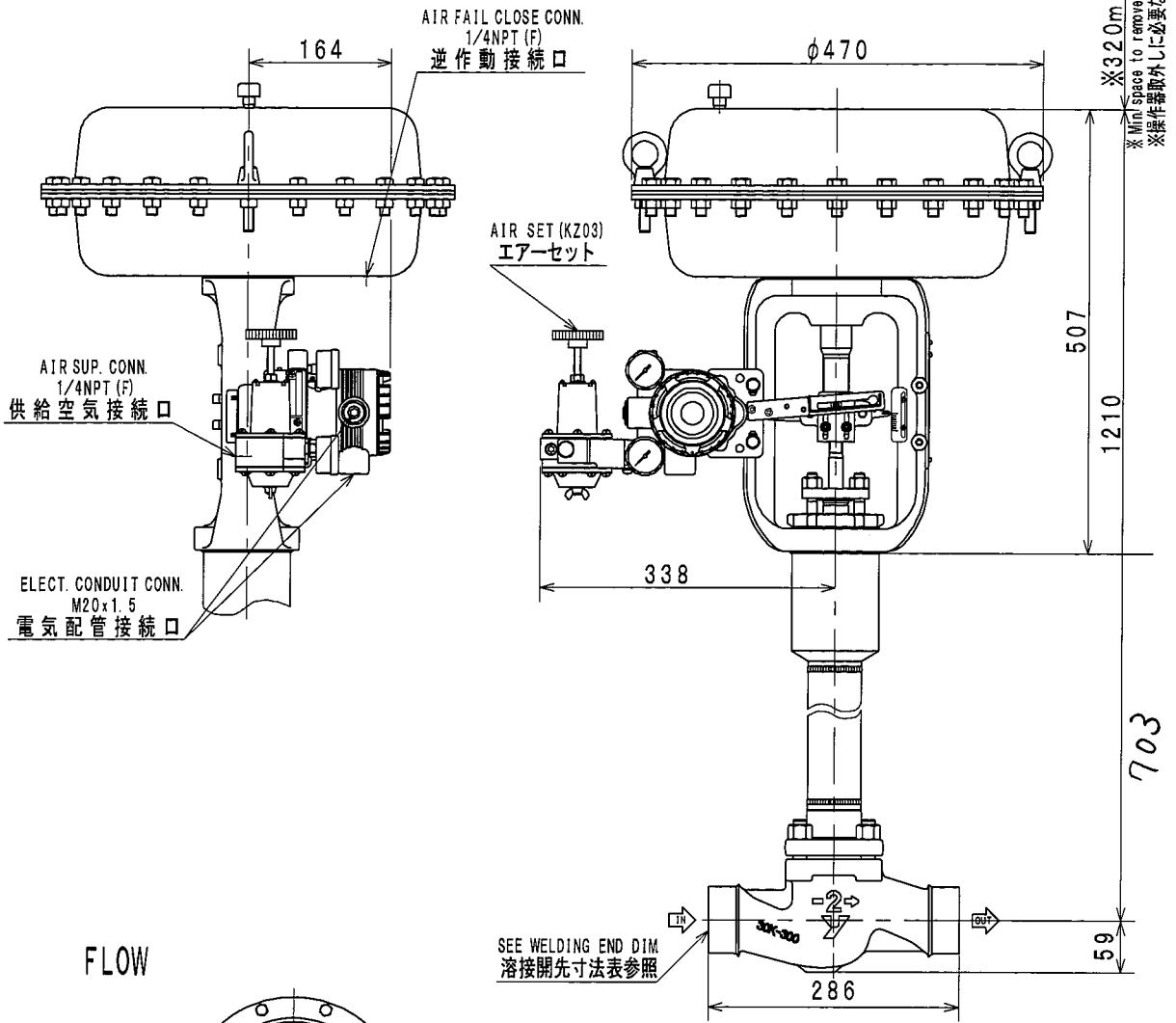
1

2

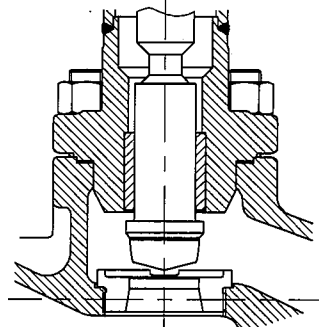
3

4

5



ORIENTATION
 配管取付姿勢 No. 1



PROD. No. :
 工事番号 :
 TAG No. : 1042XV-420B

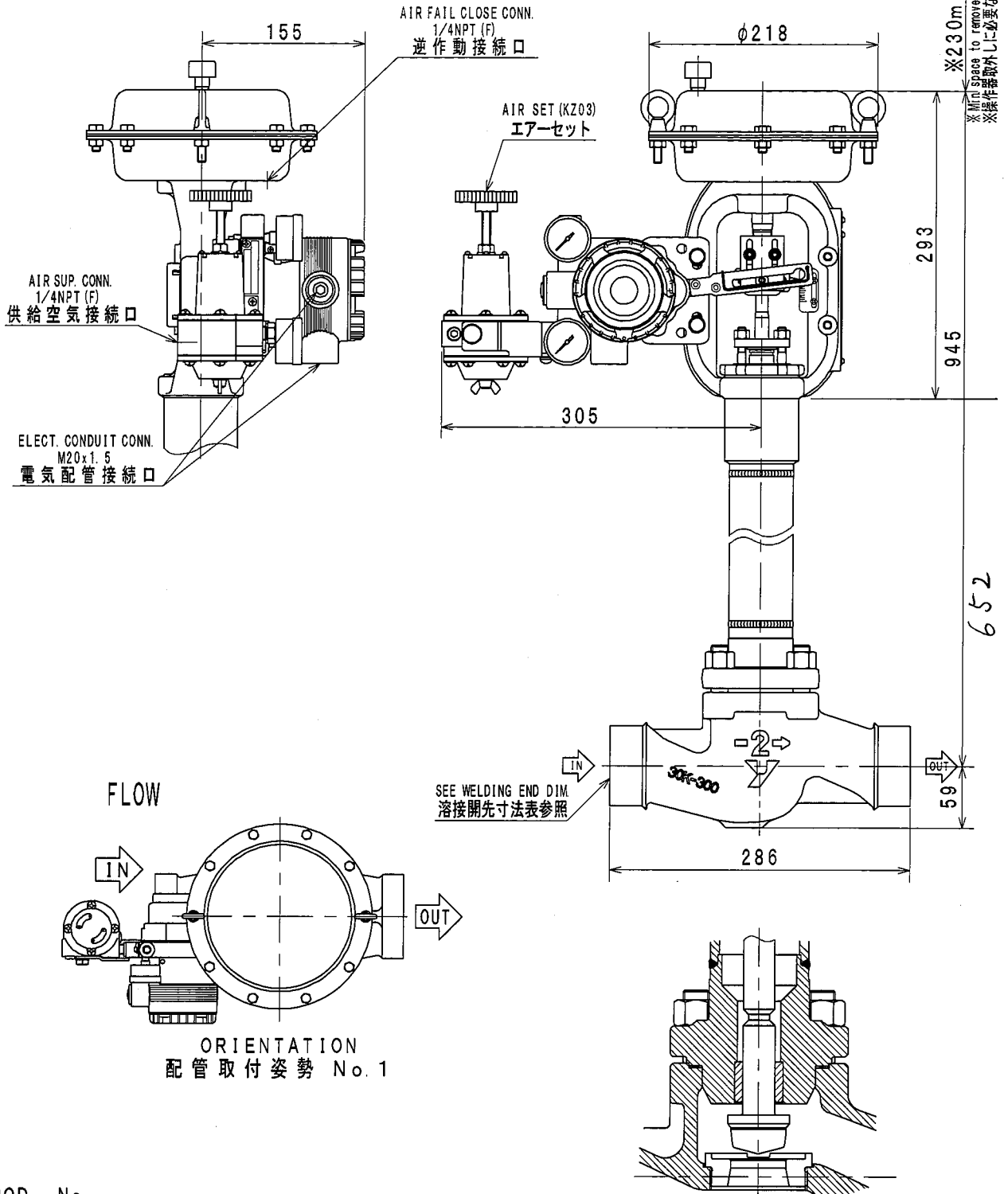
UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
2	ANSI300		LOW TEMP. TYPE 低温形	PSA4R	AIR TO OPEN	20	92
Top-Guide Single-Seated Control Valve トップガイド形単座調節弁					MODEL No. AGVM		
Yamatake Corporation					DRAWING No. AGVM-BA3S7E-BGR04C0		REV. 0

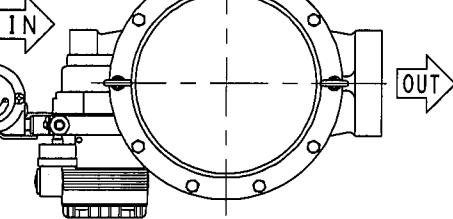
A B C D E

Item No. / Qty	20	1	Ref. No.	
Tag No.	1042XV-421B		Purchaser	Air Liquide France
Service	LIN FROM 1V04231 TO 1V04202		End user	
<Control valve>			<Remarks>	
Model	AGVB		SV0703-102 Indicating unit : "bar"	
Description	Top-Guided Single-Seat Control Valves		SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	2 in.	2 in.	SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV		50	SV0020-310 Oil free treatment for stainless steel body and Water free treatment	
Rating / Conn. Type	ANSI150	BW(Sch10s)	SV0801-E02 Material certificate in English. Scope: valve body, bonnet, plug, seat ring (cage) and stem	
Body material	A351CF8		SV0803-001 Liquid penetrant test(PT) by Yamatake Standard method	
Trim material	SUS316 STELLITE		SV0816 Impact test	
Flow characteristic	EQ%		SV0201-003 Seat leakage: Less than 0.01%CV (Equivalent IEC, JIS Class IV)	
Bonnet	EXT-2 (-196 to -45 degC)		SV0405-10E SECURE-SEAL: 500ppm with evaluation certification in English	
Actuator / Handle	PSA1R	---	Without Cover Plate	
Action	AIR TO OPEN		HART AVP SP No.2	
Gland packing / Grease	V-PTFE+TK2006	---		
Gasket	V7590,V563(PTFE)			
Air supply / Spring range	2.7bar	0.8-2.4bar		
Seat leakage	CLASS IV			
Color: Body/Diaph./Yoke	XXX	M10B5/10	M10B5/10	
Paint	Standard			
<Accessories>				
Positioner	AVP302-LSD2D-1DYS-X			
Structure	ATEX Intrinsically safe, 1/4 NPT, M20x1.5			
Input signal	4-20 mADC			
Regulator	KZ03-2B-XX		1	
Regulator2				
Limit switch				
Action				
Solenoid valve	EMET8551B405SL		1	
Action / Power	En: Control, De: Close	AC230V 50Hz		
Booster				
Air lock valve				
<Process data>				
Fluid name/Phase	N2		LIQUID	
	MAX	NOR	MIN	Unit
Flow rate		2475		L/h
Inlet pressure		5.9		barA
Outlet pressure				barA
Differential press.		0.05		bar
Shut-off press.		5.9		bar
Temperature		-177.2		degC
Density/Gravity(Liq)		757.6		kg/m3
Density/Gravity(G,V)				kg/m3(N)
Viscosity				mPa-s
Flash				%
Calculated CV		11.14		
Travel		56		%
Inlet velocity		0.3503		m/s
Predictive SPL		50		dBA
<Piping spec.>				
Strength Calc. Sheet				
Design				barG
Temp.		-196		degC
Size		2 in.		2 in.
Sch No.		10S		10S
Thickness		2.8		2.8
Yamatake Corporation				

* The drawing shall be handled as reference.
 * この図面は参考情報として取扱いをお願いします。



FLOW



ORIENTATION
配管取付姿勢 No. 1

TRIM STRUCTURE (EXAMPLE)
トリム構成図 (参考)

PROD. No. :
 工事番号 :
 TAG No. : 1042XV-421B

UNIT : mm

NOMINAL SIZE(INCH) 口径 (B)	RATING 圧力定格 (フランジ規格年度)	END CONNECTION 接続形式	BONNET TYPE 上蓋形式	ACTUATOR 操作器	VALVE ACTION 弁作動	TRAVEL トラベル	WEIGHT 概算質量(kg)
2	ANSI150		LOW TEMP. TYPE 低温形	PSA1R	AIR TO OPEN	20	42
Top-Guide Single-Seated Control Valve トップガイド形単座調節弁					MODEL No. AGVB		
Yamatake Corporation					DRAWING No. AGVB-BA1S7E-BAR04C0		REV. 0

A B C D E