

Item No. / Qty	1		1		Ref. No.	
Tag No.	LPV5-0745				Purchaser	
Service					End user	
<Control valve>					Project	
<Control valve>					<Remarks>	
Model	HCB				SV0703-105 Indicating unit : "kgf/cm2"	
Description	Pressure Balanced Cage Type Control Valves				SV0601-001 Air piping Connection: 1/4 NPT	
Body/Port size	1-1/2 in.		1-1/2 in.		SV0602-009 Air piping: Stainless steel (304ss) tube. Joint: Double-bite Joint.(316ss)	
Conn. Size. / Rated CV			24		SV0201-002 Seat leakage: Less than 0.1%CV (Equivalent IEC, JIS Class III)	
Rating / Conn. Type	ANSI150		RF		HART AVP SP No.5	
Body material	A351CF8M					
Trim material	SCS14A STELLITE					
Flow characteristic	EQ%					
Bonnet	PLAIN (-17 to 230 degC)					
Actuator / Handle	PSA1D		---			
Action	AIR TO CLOSE					
Gland packing / Grease	V-PTFE(DIR/REV)		---			
Gasket	V543,V8590					
Air supply / Spring range	4.0kgf/cm2		0.8-2.4kgf/cm2			
Seat leakage	CLASS III					
Color: Body/Diaph./Yoke	No-painting		M10B5/10		M10B5/10	
Paint	Corrosion resistant					
<Accessories>						
Positioner	AVP302-CSD3B-1DYS-X					
Structure	ATEX Flameproof, 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	Water			LIQUID		
	MAX	NOR	MIN	Unit		
Flow rate	19200	6500		kg/h		
Inlet pressure	6.5	4.5		kgf/cm2A		
Outlet pressure	3.0	1.0		kgf/cm2A		
Differential press.	3.5	3.5		kgf/cm2		
Shut-off press.	6.5			kgf/cm2		
Temperature	147	146.8		degC		
Density/Gravity(Liq)	0.9197	0.9197		water=1		
Density/Gravity(G,V)				MW		
Viscosity	0.1921	0.1924		cP		
Flash	Flash	Flash		%		
Calculated CV	17.1	13.86				
Travel	89	82		%		
Inlet velocity	5.253	1.778		m/s		
Predictive SPL	54	50		dBA		
<Piping spec.>						
Strength Calc. Sheet						
Design	6.5				kgf/cm2G	
Temp.	0/150				degC	
Size	2 in.		2 in.			
Sch No.	40		40			
Thickness	3.9		3.9			
Yamatake Corporation						

Item No.	1		Ref No.		
Tag No.	LPV5-0745		Purchaser		
Service			End User		
			Project		
			Unit		
Valve specification	Model	HCB	Piping specification		
	Nominal size (inch)	1-1/2 in.		Upstream	Downstream
	Port size (inch)	1-1/2 in.	Size (inch)	2 in.	2 in.
	Rating	ANSI150	Sch No.	40	40
	Flow characteristic	EQ%	Thickness (mm)	3.9	3.9
Process data	Fluid name	Water		LIQUID	
	Condition	1			
		Unit	MAX	NOR	MIN
	Flow rate	kg/h	19200	6500	
	Inlet pressure	kgf/cm2A	6.5	4.5	
	Outlet pressure	kgf/cm2A	3.0	1.0	
	Differential pressure	kgf/cm2	3.5	3.5	
	Temperature	degC	147	146.8	
	Gravity/Density(Liquid)	water=1	0.9197	0.9197	
	Gravity/Density(Gas or Vaper)	MW			
	Viscosity	cP	0.1921	0.1924	
	Vapor pressure	kgf/cm2A	4.477	4.452	
	Critical pressure	kgf/cm2A	225.6		
	Specific heat ratio				
	Compression factor				
Flash		Flash	Flash		
Calculated value	Calculated CV		17.1	13.86	
	Rated CV		24		
	Travel	%	89	82	
	Sound pressure level	dba	54	50	
	Inlet velocity	m/s	5.253	1.778	
Factors	Saturated temperature	degC			
	Reynolds number factor		1	1	
	Differential pressure ratio		1.73	72.92	
<MAX>			<p>CV% Typical flow characteristic graph</p>		
$CV = \frac{20.88\text{m}^3/\text{h} \times \text{Sqr}(0.9197)}{0.0865 \times 0.8864 \times \text{Sqr}(637.5\text{kPa} - 0.9206 \times 439.1\text{kPa})} = 17.1$					
<NOR>					
$CV = \frac{7.068\text{m}^3/\text{h} \times \text{Sqr}(0.9197)}{0.0865 \times 0.901 \times \text{Sqr}(441.3\text{kPa} - 0.9207 \times 436.6\text{kPa})} = 13.86$					
<MIN>					
			<p>A calculation result may be different from an actual case depending on the piping and operation conditions. It should be an reference data, accordingly.</p>		
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* 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。

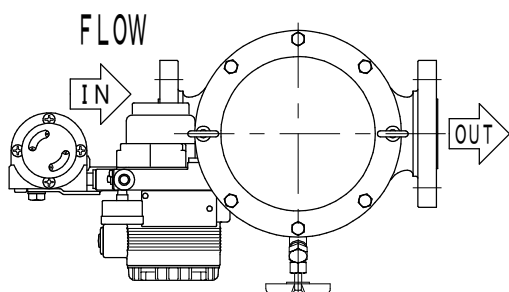
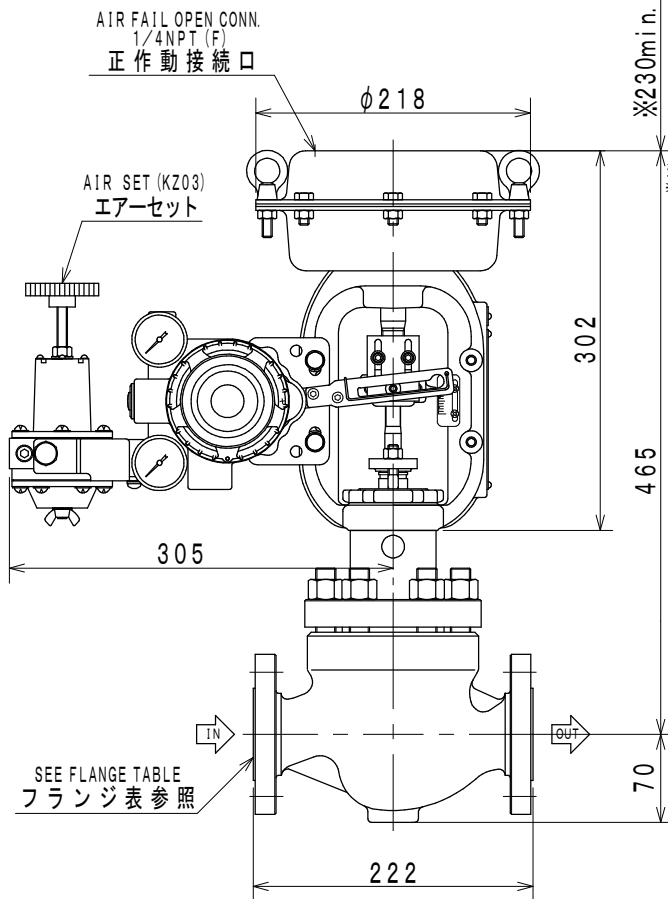
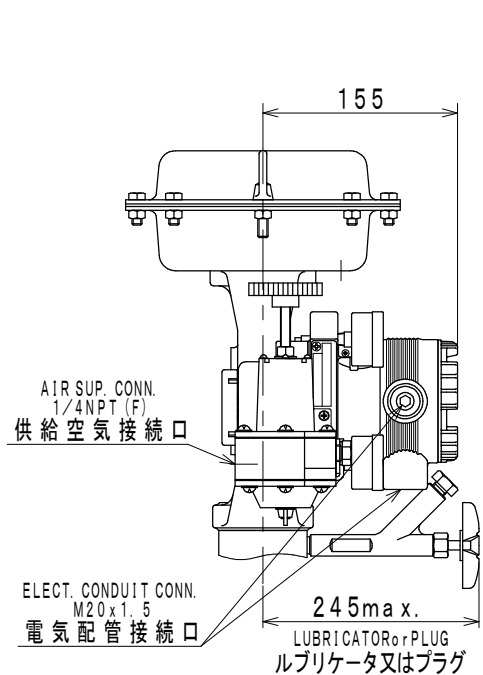
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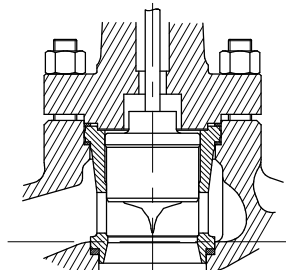
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ORIENTATION
配管取付姿勢 No. 1



TRIM STRUCTURE (EXAMPLE)
トリム構成図 (参考)

PROD. No. :
 工事番号 :
 TAG No. : LPV5-0745

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 1/2	ANSI 150 (1981)	RF	PLAIN TYPE 常温形	PSA1D	AIR TO CLOSE	25	32

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

MODEL No.
 HCB

Yamatake Corporation

DRAWING No.
 HCB-AA1R1E-BBD04C0

REV.
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