



**Bringing Science to Piping Systems**

**B**

# **ELLOWS VALVE**

*UHP Stainless Steel Pipe-welded  
Y-type Bellows Valve*

***PYB-SERIES***



***IHARA SCIENCE CORPORATION***



Product Features

The 300PYB Series Ultra High Purity bellows valve offers exceptional cleanliness and high flow for bulk gas distribution systems. Superior containment and delivery for the most critical bulk gas applications.

- Valve body is made of 316L SS pipes, and EP treated and processed for UHP media
- Metal bellows for increased pressure, high purity and maximum cycle life
- Y shaped body and high lift design for higher Cv flow rate values
- Manual and automatic operations available; pneumatic Norm-Open, Norm-Closed, Double-Acting
- Assembled, tested and packaged in an ISO5 (class 100) cleanroom, double-bagged with UHP Nitrogen purge
- Also available as 1MPa (150psi) option; order "PYB" instead of "300PYB"

Specifications

Tube Size	1"	1½"	2"	3"	4"	6"
NPS sch10s Pipe	–	8"	10"	12"	–	–
Working Pressure	Vac.~1MPa (150psi) = PYB Vac.~2MPa (300psi) = 300PYB					
Working Temperature (※1)	–10~+80°C (14~176°F)					

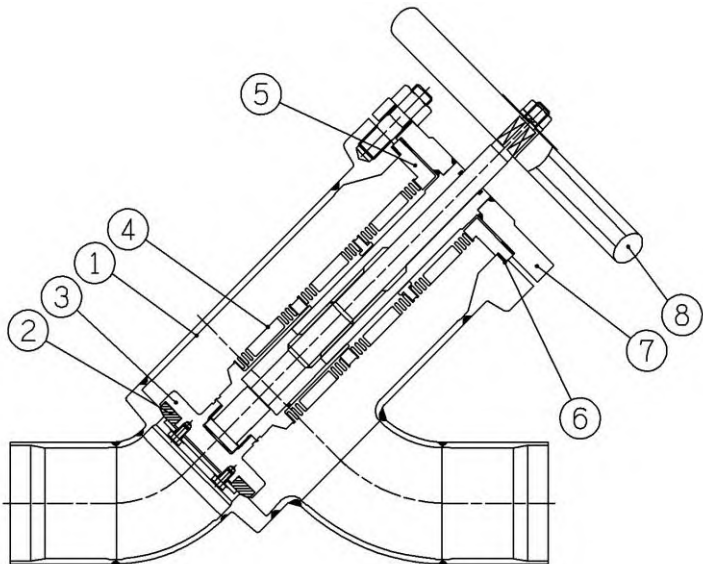
(※1) Low temperature options to -30°C denoted as suffix "LT"  
(※2) Helium leak check rate in the case of PCTFE seat.

Inspected Leak Volume (※2)	Across-seat	≤ 1 x 10 <sup>-10</sup> Pa · m <sup>3</sup> /sec.		
	Outside(Inboard)	≤ 1 x 10 <sup>-10</sup> Pa · m <sup>3</sup> /sec.		
	1" (High flow)	20	6"	730
	1-1/2"	50	8"	1200
	2"	90	10"	1800
Cv (※3) (Standard flow)	3"	220	12"	2600
	4"	345		

(※3) For HIGH FLOW Cv models, see chart below.

Materials of Construction

	Name of Parts	Material
①	Body	316L SS
②	Disc Seat	PCTFE
③	Disc Holder	316L SS
④	Bellows	316L SS
⑤	Bellows Flange	316L SS
⑥	Gasket Seal	PCTFE
⑦	Bonnet	304 SS
⑧	Handwheel	Ductile Iron



Ordering Information

300PYB – ①TW② – 6LC – ③ – ④ – ⑤ – ⑥ – H\*\*

Example: 300PYB-96TW2.8-6LC-EP-IOPP12-GD8N-HBU [6" Tube Weld.109" Ends, PCTFE Disc/Gasket, Electropolished, ½" Inlet/Outlet Purge Ports, Blue Handle]

①		②	
Legend	size	Legend	Tube thickness
16	1"	1.65	1.65mm (.065")
24	1½"	1.65	1.65mm (.065")
32	2"	1.65	1.65mm (.065")
48	3"	1.65	1.65mm (.065")
64	4"	2.1	2.1mm (.083")
96	6"	2.8	2.8mm (.109")
Legend	size	Legend	Pipe thickness
128	8"	10	Sch.10
160	10"	10S	Sch.10/S
192	12"	10S	Sch.10/S

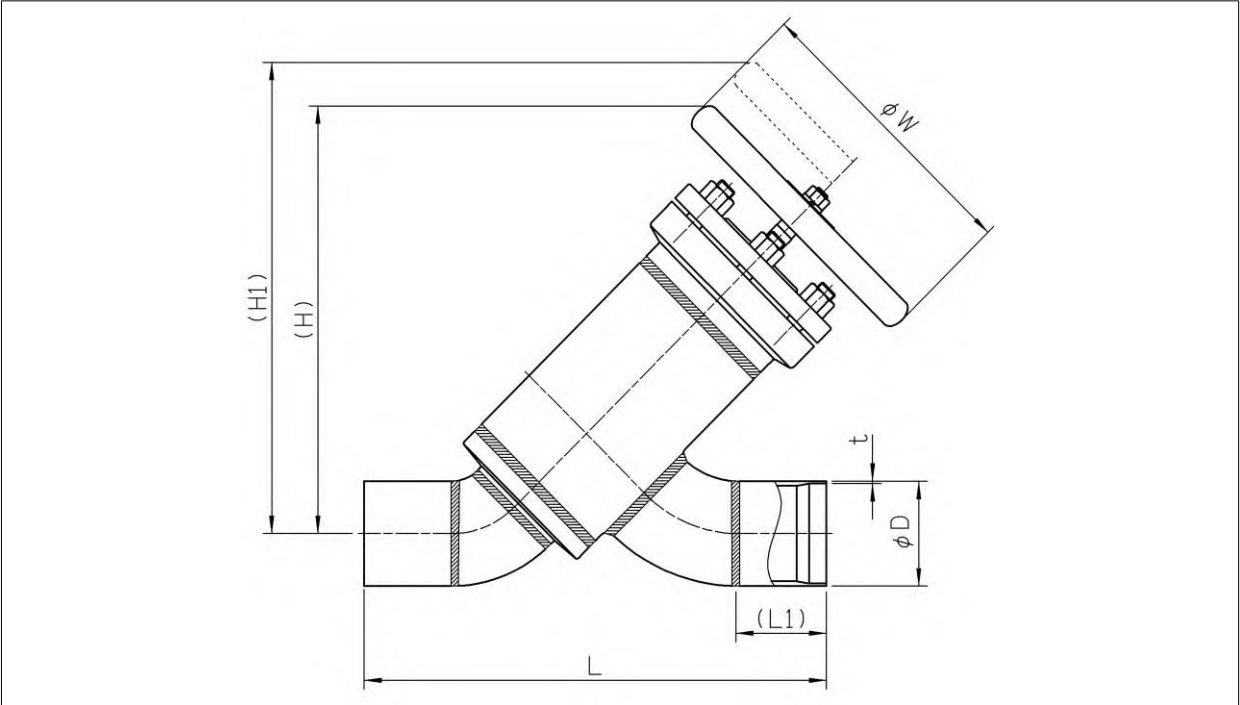
③	
Legend	Flow
(Blank)	Standard
LF	Low Flow Type
HF	High Flow Type
④	
Legend	Internal Treatment
BA	Bright Annealed Ra 20 μ in. (32Ra max)
EP	Electropolish Ra 5 μ in. (7Ra max)

⑤	
Legend	Purge Ports (PP) Purge Valves (PV)
(Blank)	None
IOPP*	INLET/OUTLET PURGE PORTS
IPP*	INLET PURGE PORT
OPP*	OUTLET PURGE PORT
IOPV*	INLET/OUTLET PURGE VALVES (STRAIGHT TYPE)
IOPVA*	INLET/OUTLET PURGE VALVES (ANGLE TYPE)

⑥	
Legend	PP Size
Blank	None
GD4	1/4"
GD8	1/2"
GD4N	1/4" w/CAP
GD8N	1/2" w/CAP

\* standard designation "IOPP12" means  
purge port orientation at 12 o'clock position  
when looking through inlet of valve  
("IOPP3" & "IOPP9" orientations available)

\*\* standard handle color SILVER  
(numerous handle colors available,  
config. as "HBU" = BLUE, "HRD" = RED  
"HGR" = GREEN, "HWH" = WHITE, etc



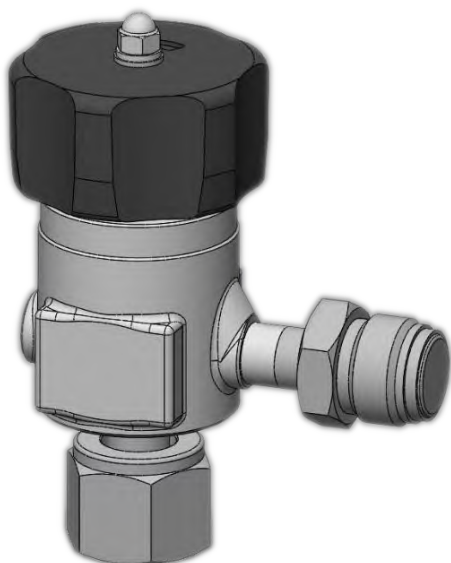
size	H	H1	L	L1	D	t	(Lift)	W
1-1/2"	223	241	285	50	38.1	1.65	26	125
2"	249	273	345	51	50.8	1.65	34	160
3"	366	403	470	55	76.2	1.65	52.5	250
4"	412	457	540	53	101.6	2.1	64	280
6"	738	815	760	80	152.4	2.8	88.5	500
8"	895	966	870	87	219.08	3.76	100.5	600
10"	1039	1145	1020	108	273.05	4.19	150	600
12"	1136	1266	1150	108	323.85	4.57	170	600

\*Dimensions for valves with purge ports differ from this table. Please check with individual drawings.

High Flow Type

size	H	L	D	t	(Lift)	W	Cv
1"	215	346	25.4	1.65	22	125	20
1-1/2"	249	344	38.1	1.65	34	160	85
2"	366	447	50.8	1.65	52.5	250	210
3"	412	540	76.2	1.65	64	280	340
4"	738	750	101.6	2.1	88.5	500	700
6"	895	915	152.4	2.8	100.5	600	1100

\*Other High Flow types are available upon request.



Purge Port Valve



PYB Angle Type with Pneumatic  
Actuator

### **WARNING**

If you don't select and handle fittings, valves and related accessories in an adequate manner, it may damage human beings and applicable systems.

Within the responsibility and authorization of users and piping designers, fittings, valves and related accessories shall be adequately selected, used and maintained based on the applicable conditions and product conformity to the system to be applied. Please read carefully the operation manual and feel free to contact with Ihara if you have any question or request.

### **WARRANTY CLAUSE**

#### 1. Warranty Period

The warranty period of the products is one (1) year from putting into service or one and half (1.5) years after delivery whichever comes earlier. However, the products specially specified and/or the cases used under deviating from the specification shall be exempted.

#### 2. Scope of Warranty

Any failure and damage under maker's responsibility will be found during the warranty period, the substitutes and/or replacement parts shall be provided free of charge. The warranty shall not be applied to a claim for the liquidated damages.



ISO9001, ISO14001 Certified Office  
Certified office for high-pressure gas facility testing and manufacturing,  
certified office for N valves and N-II fittings

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