



beta

HIGH CLEAN STAINLESS STEEL BALL VALVE



HIGH CLEAN STAINLESS STEEL BALL VALVE FOR
SEMICONDUCTOR/ LIQUID CRYSTAL PLANTS
FOR BIOCHEMICAL/ PHARMACEUTICAL/ FOOD
PROCESSING PLANTS

C O N T E N T S

1.Introduction

2.Product Range & Application Field

3. 2000 SERIES STAINLESS STEEL BALL VALVE

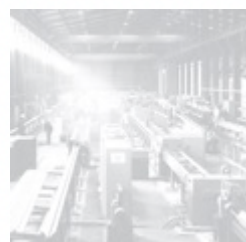
4. 3000 SERIES STAINLESS STEEL BALL VALVE

3. 1000 SERIES STAINLESS STEEL BALL VALVE

4. BV SERIES STAINLESS STEEL HEX BALL VALVE

5. PIPE-COMBINED VALVES

6.Global Marketing





***We will be a partner
in technology***



Introduction

Based on professional technology, BETA CLEAN PIPE is one of the few companies that successfully produce seamless stainless steel tubes and pipes worldwide. Due to its high purity, durability and corrosion resistance, BETA CLEAN PIPE products are a key component of chemical and gas power systems and semiconductor and LCD production. In order to meet the increasing demand for high precision tube and pipe, the company to save the cost of production method and production technology has made great progress, the goal is to become a world-class technology leader in the overseas markets.

Innovative technology

AP/MP/BA/EP Seamless Stainless Steel Tube & Pipe

Semi-Seamless Stainless Steel Pipe

Laser Welding system with the best manufacturing engineer system

The Development of high-tech tube materials such as VIM/VAR

The Achievement of patent on seamless tube and the manufacturing technology

PIPE

Seamless Stainless Steel Tube/Pipe

Stainless Steel Laser Welded Tube/Pipe

Welded Stainless Steel Tube/Pipe & Cold Drawn

BALL VALVE

3Piece Type STAINLESS STEEL BALL VALVE

2Piece Type STAINLESS STEEL BALL VALVE

1Piece Type STAINLESS STEEL BALL VALVE

STAINLESS STEEL HEX BALL VALVE



■ ■ Product Range & Application Field

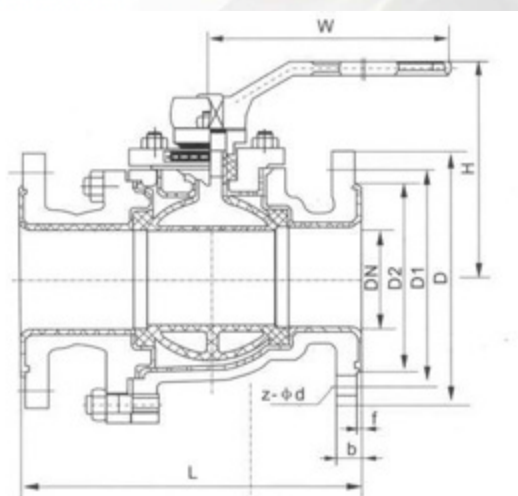
Application Field	The quality of material
Semiconductor / LCD plants	VIM/VAR,SUS316(L),304(L)
Sanitary / Biochemical	SUS304(L), 316(L)
Petrochemistry / Electric-power plants	SUS316(L),304(L),310,321
Ship-building	SUS316(L),304(L),310,321
Nuclear power plants	SUS316(L),304(L),310,321
Cylinder & Shaft	SUS304(L)
Precision Machine & Airplane Parts	SUS316(L),304(L)



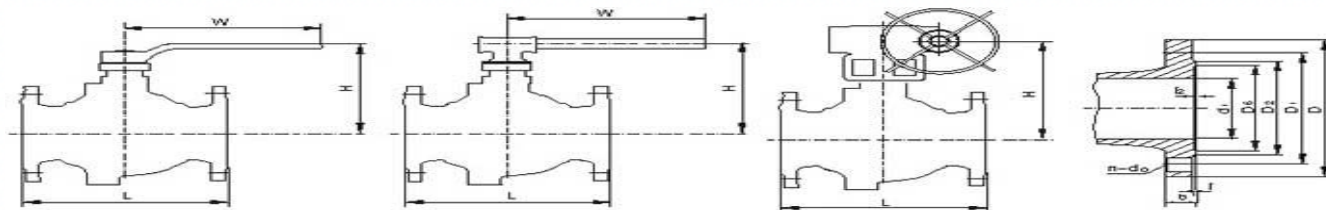


2000 SERIES STAINLESS STEEL BALL VALVE

- SIZE: 15A ~ 300A
- STYLE: 2Piece Type
- Design Pressure: 1Mpa
- Design Temperature: Max80℃
- End Connection: JIS 10K RF FLG
- Body Material: Cast Stainless Steel
- Shell Test: 1.6 Mpa
- Shell Closure Test: 1.1 Mpa
- Surface Finish: BA or AP
BA ($R_y \leq 4.5\mu m$)
AP (Manufactured Face or Casting Face)
- Handle Type: 15A~100A Bar Handle
125A~300A Attached Gear Box
- Option: OPP=Out Purge Port
IPP=In Purge Port
IOPP=In and Out Purge Port



NAME OF PART	MATERIAL	
	ASTM	JIS
CAP	CF8M	SCS14A
BODY	CF8M	SCS14A
BALL	CF8M	SCS14A
BALL SEAT	PTFE	
V-RING STEM PACKING	PTFE	
HANDLE	SUS304	



Size	ød	øg	øD	T	f	n	øh	C	H	L	Shape - Size*	BA or AP
15A	15	52	95	12	1	15	70	82	108	135	BV2000-15A*	
20A	20	58	100	14	1	15	75	86	117	135	BV2000-20A*	
25A	25	70	125	14	1	19	90	98	127	165	BV2000-25A*	
32A	32	80	135	16	2	19	100	102	140	165	BV2000-32A*	
40A	40	85	140	16	2	19	105	119	165	200	BV2000-40A*	
50A	50	100	155	16	2	19	120	128	178	200	BV2000-50A*	
65A	65	120	175	18	2	19	140	162	190	400	BV2000-65A*	
80A	76	130	185	18	2	19	150	172	203	400	BV2000-80A*	
100A	100	155	210	18	2	19	175	197	229	500	BV2000-100A*	
125A	125	185	250	20	2	8	23	210	218	356	BV2000-125A*	
150A	150	215	280	22	2	8	23	240	245	394	BV2000-150A*	
200A	200	265	330	22	2	12	23	290	281	457	BV2000-200A*	
250A	250	325	400	24	2	12	25	355	341	533	BV2000-250A*	
300A	300	370	445	24	3	16	25	400	383	610	BV2000-300A*	



3000 SERIES STAINLESS STEEL BALL VALVE

- SIZE:

15A ~ 300A
- STYLE:

3Piece Type
- Design Pressure:

1Mpa
- Design Temperature:

Max80℃
- End Connection:

BW
- Body Material:

Cast Stainless Steel
- Shell Test:

1.6 Mpa
- Shell Closure Test:

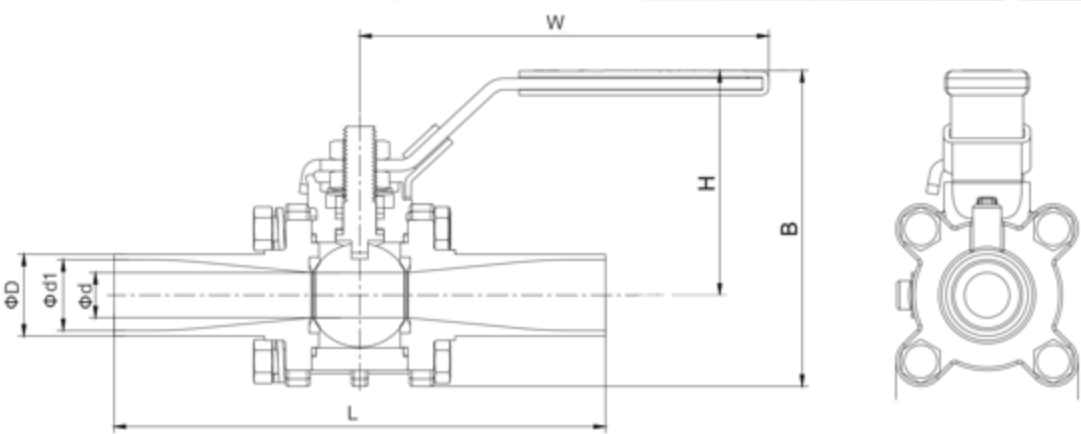
1.1 Mpa
- Surface Finish:

BA or AP
BA ($R_y \leq 4.5\mu m$)
AP (Manufactured Face or Casting Face)
- Handle Type:

15A~100A Bar Handle
125A~300A Attached Gear Box
- Option:

OPP=Out Purge Port
IPP=In Purge Port
IOPP=In and Out Purge Port

NAME OF PART	MATERIAL	
	ASTM	JIS
CAP	CF3M	SCS16A
BODY	CF8M	SCS14A
BALL	CF8M	SCS14A
BALL SEAT	PTFE	
V-RING STEM PACKING	PTFE	
HANDLE	SUS304	



Size	ød	ød1	øD	t	H	L	W	Shape - Size*	BA or AP
15A	15	18.40	21.70	1.65	61.35	155.00	136.00	BV3000_15A_*	
20A	20	23.90	27.20	1.65	72.10	163.47	136.00	BV3000_20A_*	
25A	25	30.70	34.00	1.65	72.10	163.47	162.00	BV3000_25A_*	
32A	32	39.40	42.70	1.65	76.10	194.00	162.00	BV3000_32A_*	
40A	40	45.30	48.60	1.65	89.81	208.00	202.00	BV3000_40A_*	
50A	50	57.20	60.50	1.65	98.15	212.00	202.00	BV3000_50A_*	
65A	65	72.10	76.30	2.11	110.25	248.00	202.00	BV3000_65A_*	
80A	76	84.90	89.10	2.11	154.40	262.00	330.00	BV3000_80A_*	
100A	100	110.10	114.30	2.11	166.10	301.00	330.00	BV3000_100A_*	
125A	125	134.20	139.80	2.80	191.70	330.00	330.00	BV3000_125A_*	
150A	150	159.60	165.20	2.80	211.00	364.00	500.00	BV3000_150A_*	
200A	200	210.70	216.30	2.80	281.00	521.00	350.00	BV3000_200A_*	
250A	250	260.60	267.40	3.40	341.00	339.00	457.00	BV3000_250A_*	
300A	300	310.50	318.50	4.00	383.00	635.00	610.00	BV3000_300A_*	



3000 SERIES STAINLESS STEEL BALL VALVE

- SIZE:

1/2" ~ 6"
- STYLE:

3Piece Type
- Design Pressure:

1Mpa
- Design Temperature:

Max80℃
- End Connection:

BW
- Body Material:

Cast Stainless Steel
- Shell Test:

1.6 Mpa
- Shell Closure Test:

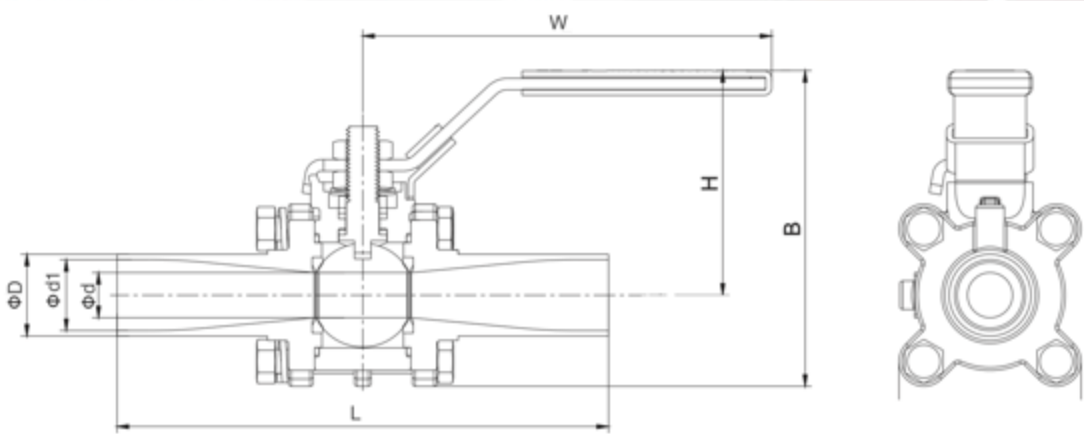
1.1 Mpa
- Surface Finish:

BA or AP
BA ($R_y \leq 4.5\mu\text{m}$)
AP (Manufactured Face or Casting Face)
- Handle Type:

15A~100A Bar Handle
125A~300A Attached Gear Box
- Option:

OPP=Out Purge Port
IPP=In Purge Port
IOPP=In and Out Purge Port

NAME OF PART	MATERIAL	
	ASTM	JIS
CAP	CF3M	SCS16A
BODY	CF8M	SCS14A
BALL	CF8M	SCS14A
BALL SEAT	PTFE	
V-RING STEM PACKING	PTFE	
HANDLE	SUS304	



Size	ød	ød1	øD	t	H	L	W	Shape - Size*	BA or AP
1/2"	10	10.21	12.70	1.24	48.40	103.00	128.00	BV3000-08-*	
3/4"	10	15.75	19.05	1.65	61.35	156.00	136.00	BV3000-12-*	
1"	15	22.10	25.40	1.65	72.10	163.00	136.00	BV3000-16-*	
1 1/2"	25	34.80	38.10	1.65	76.10	194.00	162.00	BV3000-24-*	
2"	32	47.50	50.80	1.65	89.81	222.00	202.00	BV3000-32-*	
2 1/2"	40	60.20	63.50	1.65	98.15	240.00	202.00	BV3000-40-*	
3"	50	72.90	76.20	1.65	110.25	248.00	202.00	BV3000-48-*	
4"	80	97.40	101.60	2.11	165.15	301.00	330.00	BV3000-64-*	
6"	125	146.86	152.40	2.11	211.00	388.00	500.00	BV3000-96-*	



1000 SERIES STAINLESS STEEL BALL VALVE

- SIZE:

8A ~ 50A(1/4"~2")
- STYLE:

1Piece Type
- Design Pressure:

1Mpa
- Design Temperature:

Max80℃
- End Connection:

Threaded Type
- Body Material:

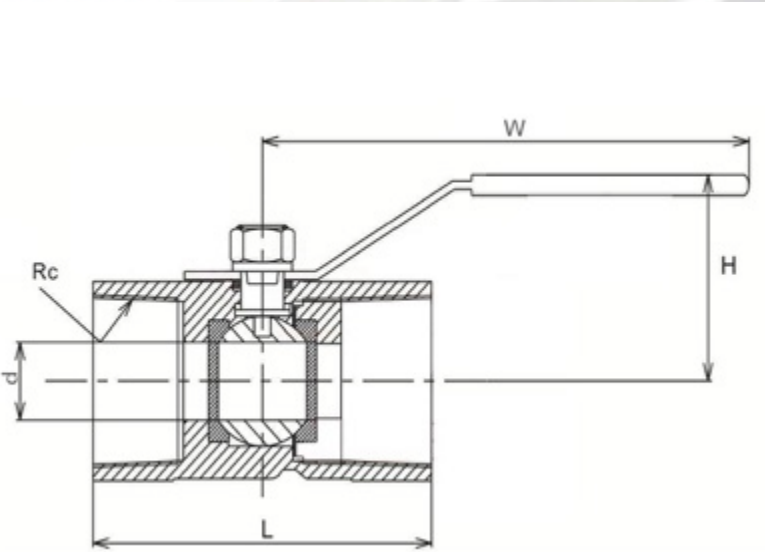
Cast Stainless Steel
- Shell Test:

1.6 Mpa
- Shell Closure Test:

1.1 Mpa
- Surface Finish:

AP (Manufactured Face or Casting Face)
- Handle Type:

Bar Handle



NAME OF PART	MATERIAL	
	ASTM	JIS
CAP	CF8M	SCS14A
BODY	CF8M	SCS14A
BALL	CF8M	SCS14A
BALL SEAT	PTFE	
V-RING STEM PACKING	PTFE	
HANDLE	SUS304	

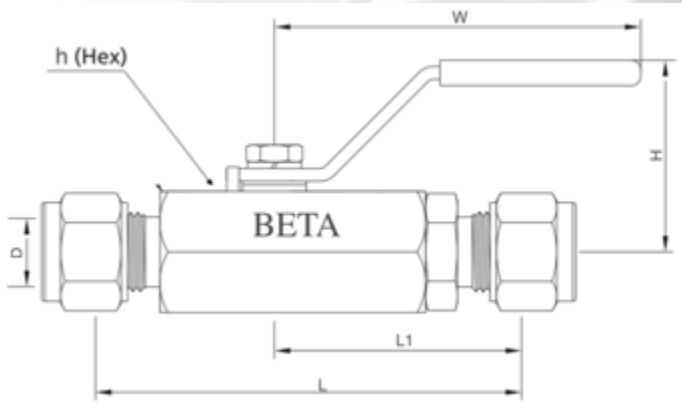
Size		ød	H	L	W	Shape - Size*
1/4"	8A	5	34	39	72	BV1000_04FN_*
3/8"	10A	7	36	44	83	BV1000_06FN_*
1/2"	15A	9	42	57	97	BV1000_08FN_*
3/4"	20A	12.5	44	60	97	BV1000_12FN_*
1"	25A	16	48	71	115	BV1000_16FN_*
1 1/4"	32A	20	52	78	115	BV1000_20FN_*
1 1/2"	40A	25	60	83	123	BV1000_24FN_*
2"	50A	32	60	100	123	BV1000_32FN_*



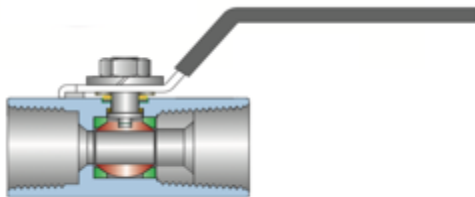
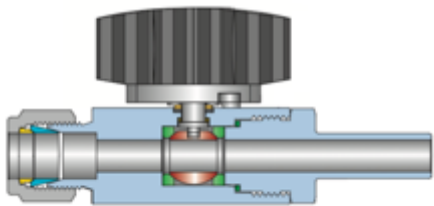
BV SERIES STAINLESS STEEL HEX BALL VALVE

- SIZE: 1/4" ~ 1"
- STYLE: Hex Bar Stock
- Design Pressure: 1000Psi
- Design Temperature: Max80℃
- End Connection: Bite(B-LOK)、 Threaded、 BW Type
- Body Material: Forged Stainless Steel
- Shell Test: 1500Psi
- Shell Closure Test: 1000Psi

- Surface Finish: BA
BA (Ry≤4.5μm)
- Handle Type: Lever Handle
Butterfly Handle
Nylon Bar Handle



NAME OF PART	
Body	316SS
Ball Seat	PTFE(Glass 30%)
Ball	316SS
O-Ring	Viton
Connector	316SS
Stem	316SS
Inner Packing	PTFE
Outer Packing	PTFE
Gland	316SS
Washer	316SS
Handle	Aluminium
Front Ferrule	316SS
Back Ferrule	316SS
Nut	316SS



Size	Type	D	L	L1	h	W Lever Handle	W Butterfly Handle	H	Shape - Size*
1/4"	Bite Type(B-LOK)	4.80	72.60	41.70	17.46	65.00	20.00	31.50	BV11U-04-*
3/8"	Bite Type(B-LOK)	7.10	78.20	44.20	20.64	85.00	25.00	37.30	BV12U-06-*
1/2"	Bite Type(B-LOK)	9.00	90.20	51.10	27.00	85.00	25.00	40.10	BV13U-08-*
3/4"	Bite Type(B-LOK)	12.00	96.20	54.10	30.00	110.00		52.00	BV14U-12-*
1"	Bite Type(B-LOK)	15.00	113.80	64.50	36.00	110.00		52.00	BV15U-16-*
1/8"	Threaded(NPT or PT)	4.80	65.10	42.10	17.46	65.00	20.00	31.50	BV11F-02N-*
1/4"	Threaded(NPT or PT)	4.80	65.70	42.10	17.46	65.00	20.00	31.50	BV11F-04N-*
3/8"	Threaded(NPT or PT)	9.00	81.00	46.00	27.00	85.00	25.00	40.10	BV12F-06N-*
1/2"	Threaded(NPT or PT)	9.00	87.50	47.50	27.00	85.00	25.00	40.10	BV13F-08N-*
3/4"	Threaded(NPT or PT)	12.50	61.00	37.50	31.75	110.00		44.50	BV14F-12N-*
1"	Threaded(NPT or PT)	16.00	75.00	44.50	38.10	110.00		48.00	BV15F-16N-*
6mm	Bite Type(B-LOK)	4.80	72.60	41.70	17.46	65.00	20.00	31.50	BV11U-M06-*
8mm	Bite Type(B-LOK)	4.80	73.00	41.90	17.46	65.00	20.00	31.50	BV11U-M08-*
10mm	Bite Type(B-LOK)	7.10	78.20	44.20	20.64	85.00	25.00	37.30	BV12U-M10-*
12mm	Bite Type(B-LOK)	9.00	90.20	51.10	27.00	85.00	25.00	40.10	BV13U-M12-*
25mm	Bite Type(B-LOK)	15.00	113.80	64.50	36.00	110.00		52.00	BV15U-M25-*

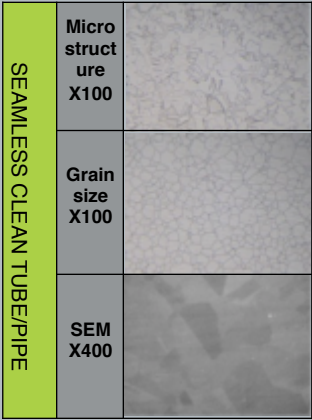
 Semiconductor / LCD

MATERIAL/ CHEMICAL COMPOSITI

		C	Si	Mn	P	S	Ni	Cr	Mo	O(ppm)
SUS304TP	SMIC/LCD	max 0.08	max 1.00	max 2.00	max 0.045	max 0.030	8.00-11.00	18.00-20.00		
	Typical example	0.02	0.47	1.09	0.028	0.002	9.07	18.25		
SUS316TP	SMIC/LCD	max 0.08	max 1.00	max 2.00	max 0.045	max 0.030	10.00-14.00	16.00-18.00	2.00-3.00	
	Typical example	0.02	0.45	0.84	0.026	0.001	11.16	17.28	2.17	
SUS316LTP	SMIC/LCD	max 0.030	max 1.00	max 2.00	max 0.045	max 0.030	12.00-16.00	16.00-18.00	2.00-3.00	
	Typical example	0.019	0.35	0.71	0.027	0.001	12.64	16.68	2.2	
VIM+VAR	SMIC/LCD	max 0.015	max 0.50	max 0.05	max 0.020	max 0.003	14.00-15.00	16.00-17.00	2.00-3.00	max 20
	Typical example	0.006	0.09	0.03	0.004	0.002	14.72	16.37	2.83	8

MECHANICAL PROPERTY

		Tensile strength (N/mm²)	Yield strength (N/mm²)	Elongation (%)	Hardness (HRb)
SUS304TP	SMIC/LCD	min 520	min 205	min 35	
	Typical example	619	251	59	162
SUS316TP	SMIC/LCD	min 520	min 205	min 35	
	Typical example	605	278	53	142
SUS316LTP	SMIC/LCD	min 480	min 175	min 35	
	Typical example	587	260	62	138



 Bio / Pharmaceutical / Food processing plants

MATERIAL/ CHEMICAL COMPOSITI

		C	Si	Mn	P	S	Ni	Cr	Mo
SUS304TBS	Food / Pharmaceutical	max 0.08	max 1.00	max 2.00	max 0.045	max 0.030	8.00-10.50	18.00-20.00	
	Typical example	0.02	0.43	1.04	0.03	0.006	9.09	18.5	
SUS316LTBS	Food / Pharmaceutical	max 0.030	max 1.00	max 2.00	max 0.045	max 0.030	12.00-15.00	16.00-18.00	2.00-3.00
	Typical example	0.019	0.37	0.76	0.025	0.001	12.59	17.37	2.15

MECHANICAL PROPERTY

		Tensile strength (N/mm²)	Elongation (%)	Hardness (HRb)
SUS304TBS	Food / Pharmaceutical	min 520	min 35	
	Typical example	605	55	162
SUS316LTBS	Food / Pharmaceutical	min 480	min 35	
	Typical example	552	61	138

Datasheet & Equipment List

Inner Surface Roughness

Method	Size	Inner surface roughness Assurance values		Hardness
		Rmax(μm)	Ra(μinch)	Hb
AP	OD	≤25	≤100	≥90
BA	1/4"≤OD≤1"	≤3	≤15	
	25A≤OD≤80A	≤4	≤20	
MP	OD≥100A	≤4	≤20	
EP	1/4"OD≤80A	≤0.5	≤10	
	OD≥100A	≤0.7		

※For Semiconductor and Liquid Crystal Plants

Super Mechanical Cleaned Quality Assurance Values

Method	Particle(Number/CFM)		Oil content	Eluant ion Check(Liquid resistivity Measurement)	Eluant ion Check(ion chromatograpty Analysis)	Dew point
	0.1μm	0.3μm				
AP		≤5	≤0.1mg/ft2	—	—	—
BA/MP	≤5	0	≤0.01mg/ft2	≥0.5MΩ·CM	≤10ng/fcm2	≤-75℃
EP	≤1	0	≤0.01mg/ft2	≥0.5MΩ·CM	≤5ng/fcm2	≤-75℃

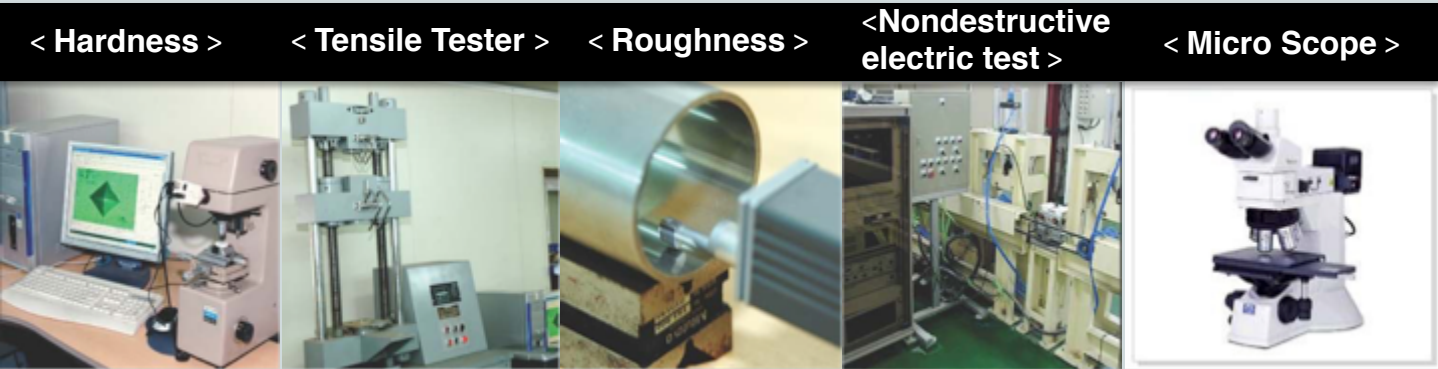
※For Semiconductor and Liquid Crystal Plants

Facility Equipment

Classification	Q'ty	Etc.
RO/DI system	1	18MΩ 10TON/DAY
Clean room	1	100/1000CLASS
Gas equipment	1	N2, H2, CDA
Auto cutting/ chamering	1	WITH AUTO CLEANING
Dew point tester	1	-90<DEW POINT<+90

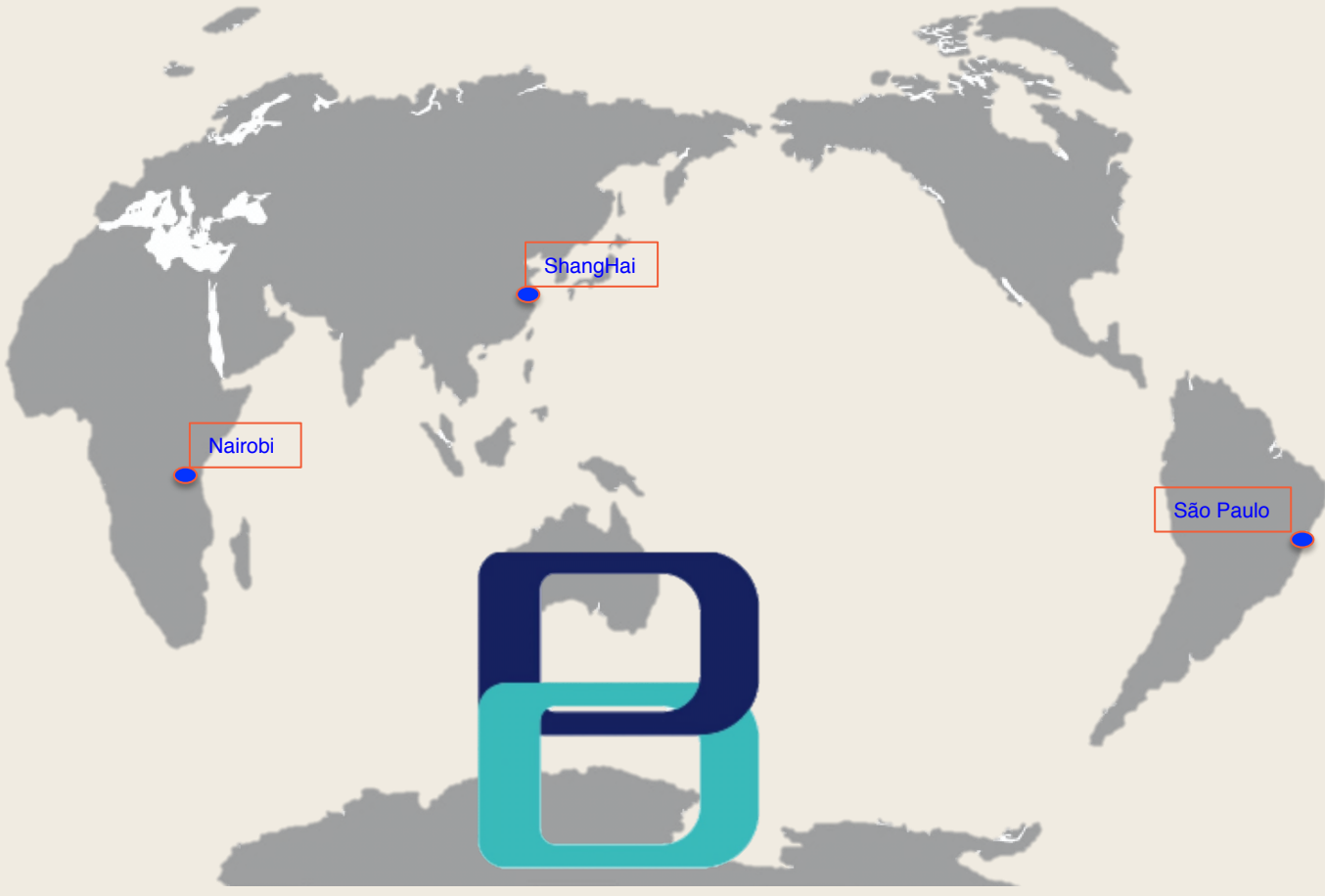
Inspection Equipment

Classification	Q'ty	Etc.
Surface roughness Measuring instruments	1	
Pin gauge	5	
Microscope for steel	1	X500
Hardness tester	1	H.V. tester 1Kg
Flatinf tester	1	
Eddy current examination equipment	2	
Versatile tester	1	Max 1000kN



PIPE-COMBINED VALVES





ShangHai

Nairobi

São Paulo



beta

BETA GROUP GLOBAL LOCATIONS



BETA CHINA

Tel: +86 (21)64790210

Fax: +86 (21)64790211

E-Mail: tonyliu.china@betaclean.net www.betaclean.net



BETA BRASIL

Tel: +55-11977862666

Fax: +55-1132272638

E-Mail: linsheng.br@betaclean.net www.betaclean.net



BETA KENYA

Tel: +254-718940300

Fax: +254-718940300

E-Mail: xiaobing.ke@betaclean.net www.betaclean.net

