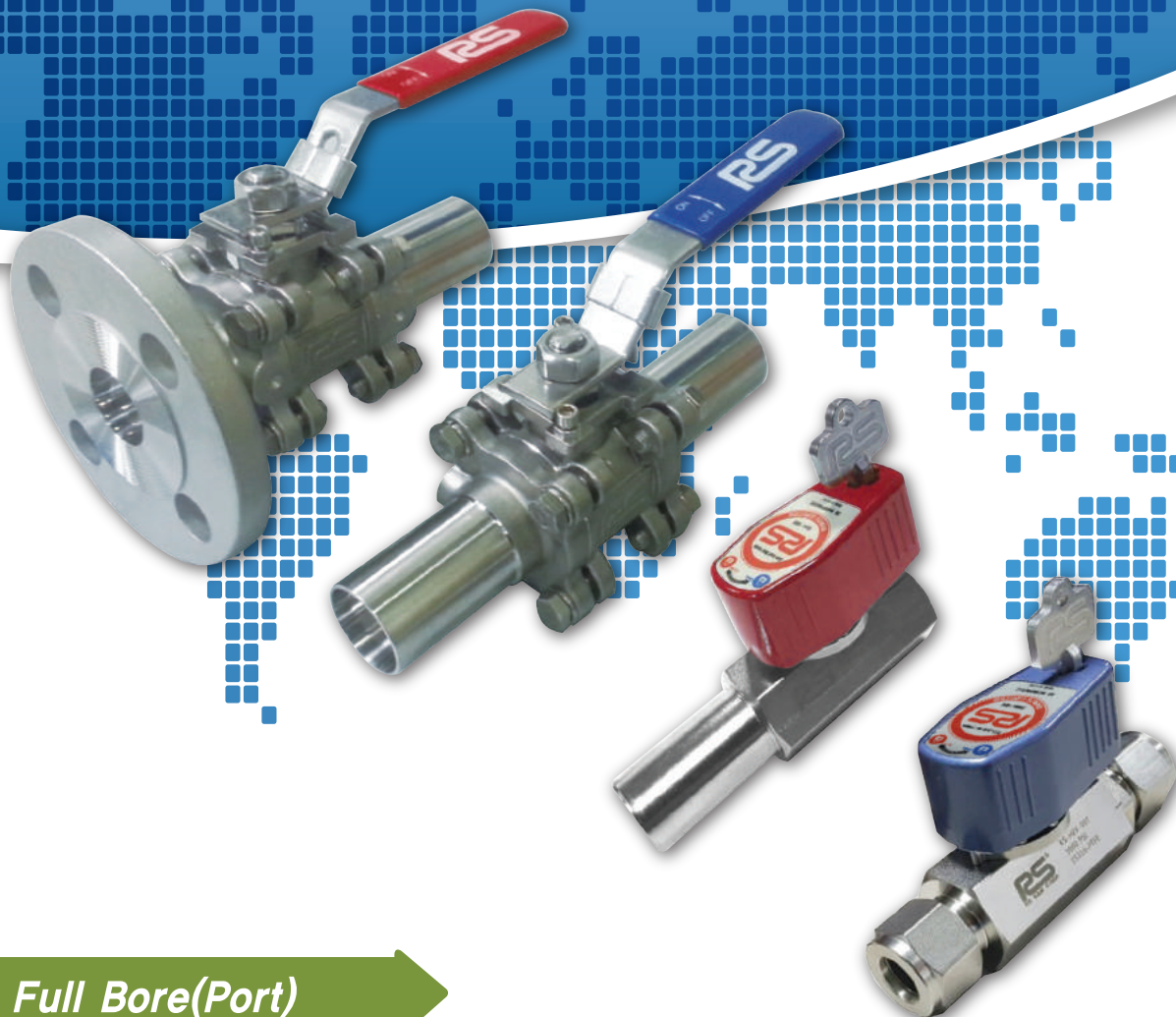


RS[®] Clean Ball Valve

H i g h - P u r i t y V a l v e s



• Full Bore(Port)

• Oil Free

• Easy Maintenance

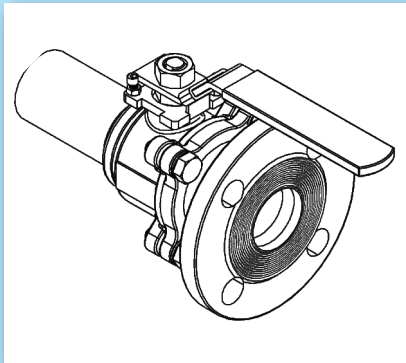
• High Flow

Clean Ball Valve

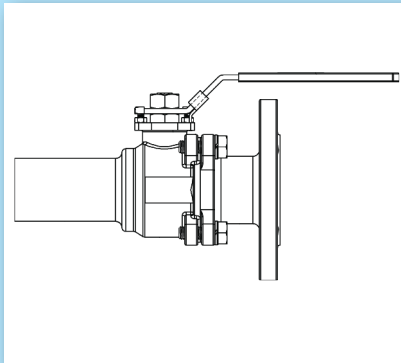
특허 출원 (特許出願)

RS Clean Ball Valve

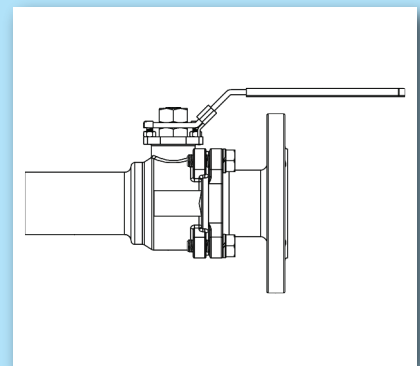
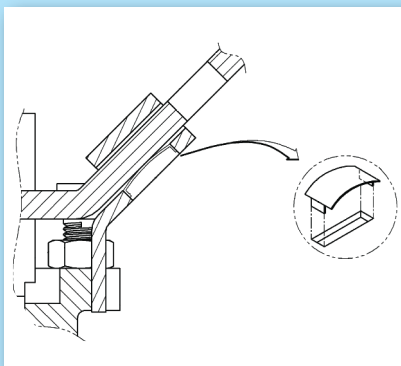
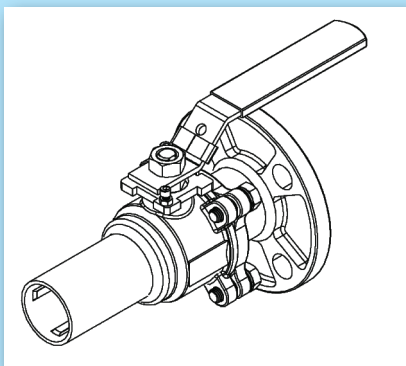
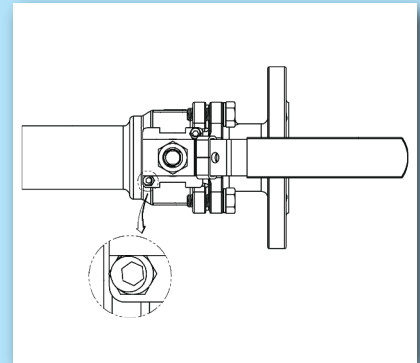
Design特許出願番號
30-2013-0020953



Lock裝置特許出願番號
10-2013-0044071

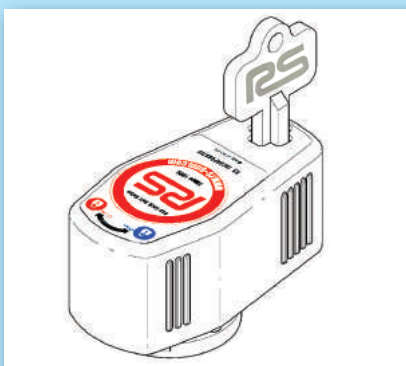


流路에 턱이 發生하지 않도록
微細調節하는 裝置特許
10-2013-0044060



RS Key Lock Ball Valve

技術特許出願番號
10-2015-0164512



Design特許出願番號
30-2015-0059041



Design特許出願番號
30-2015-0059040



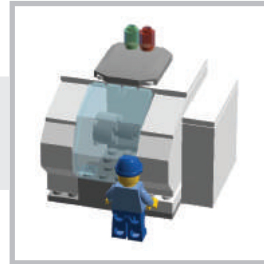
Manufacturing Process



Material Incoming



Material Inspection



Machining



Inspection After Machined



DI-Water Cleaning



Passivation (Option)



Electrolytic Polishing (Option)



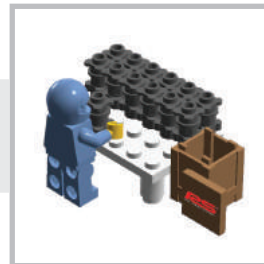
Degreasing



Assembly



Product Inspection



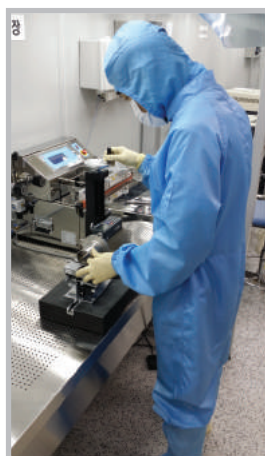
Packaging



Shipment



Assembly



Surface Roughness Measurement



Particle Counting

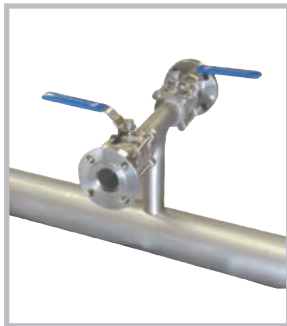


He Leak Test

Clean Ball Valve



Lower Installation Cost



Spool Valve



Installation Example



Installation Example



Higher Installation Cost

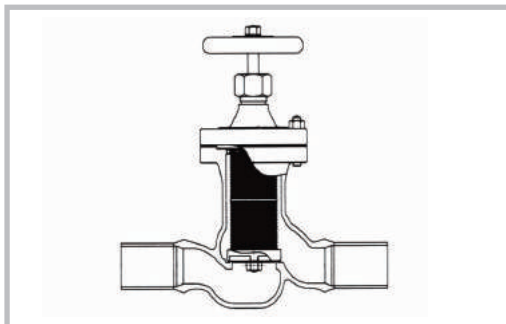
VS

Applications

- Clean Dry Air Line (CDA)
- General N2 Gas Line (GN2)
- Bulk Gas Line
- Process Cooling Water (PCW)
- Organic Chemical Line (Acetone, IPA, Thinner, etc.,)
- Food Process Line
- Bio Pharmaceutical Line

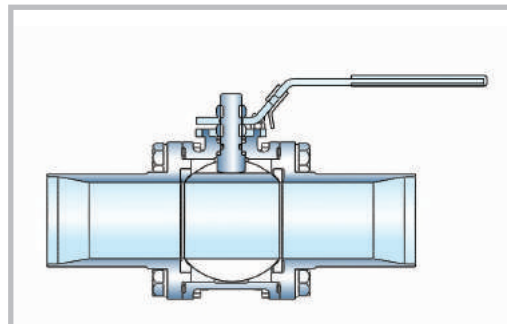
Specifications

- Max. Pressure Ratings : Up to 50Kgf/cm²
- Operating Temperature : -10°C to 80°C
- Leak Test : External Leak : 1x10⁻⁵ Atm.cc/Sec
Internal Leak : 1x10⁻⁵ Atm.cc/Sec
- Surface Finish : Fine Machine Finished (AP/MP/BA)
- Material of Body & Cap : SUS316 / SUS304
- Spool Manifolds up to 6M Lengths
- Optional : EP Treatment
Inlet / Outlet Purge Ports
Manifold (2~5 Valves T-Type)



Bellows Valve

- Bigger Pressure Loss
- Lower Cv Value



Ball Valve

- Flow Straight Without Resistance
- Cv Value Is 15 times Bigger Than Bellows Valve (200A)

VS

Ordering Information

Series	
RBW	Tube or Pipe Butt Weld Connection
RBWF	Pipe Butt Weld × Flange Connection
RBF	Flange × Flange Connection
RBWL	Tube Butt Weld × Compression Fitting (LOK)
RBL	Compression × Compression Fitting (LOK)
RBWF/P	Pipe Butt Weld × Flange Connection (2-Pieces)
RBWS/P	Pipe Butt Weld × Female Connection (2-Pieces)

Handle	
Lever	Blank
Gear Wheel	G

Series	Size	Handle	Material	Actuator	Grade
--------	------	--------	----------	----------	-------

Series			
0.38	3/8"	32	32A
0.5	1/2"	40	40A
0.75	3/4"	50	50A
1	1"	60	60A
1.5	1 1/2"	80	80A
2	2"	100	100A
2.5	2 1/2"	125	125A
3	3"	150	150A
4	4"	200	200A
15	15A	250	250A
20	20A	300	300A
25	25A		

Grade	
AP	Blank
BA	BA
EP	EP

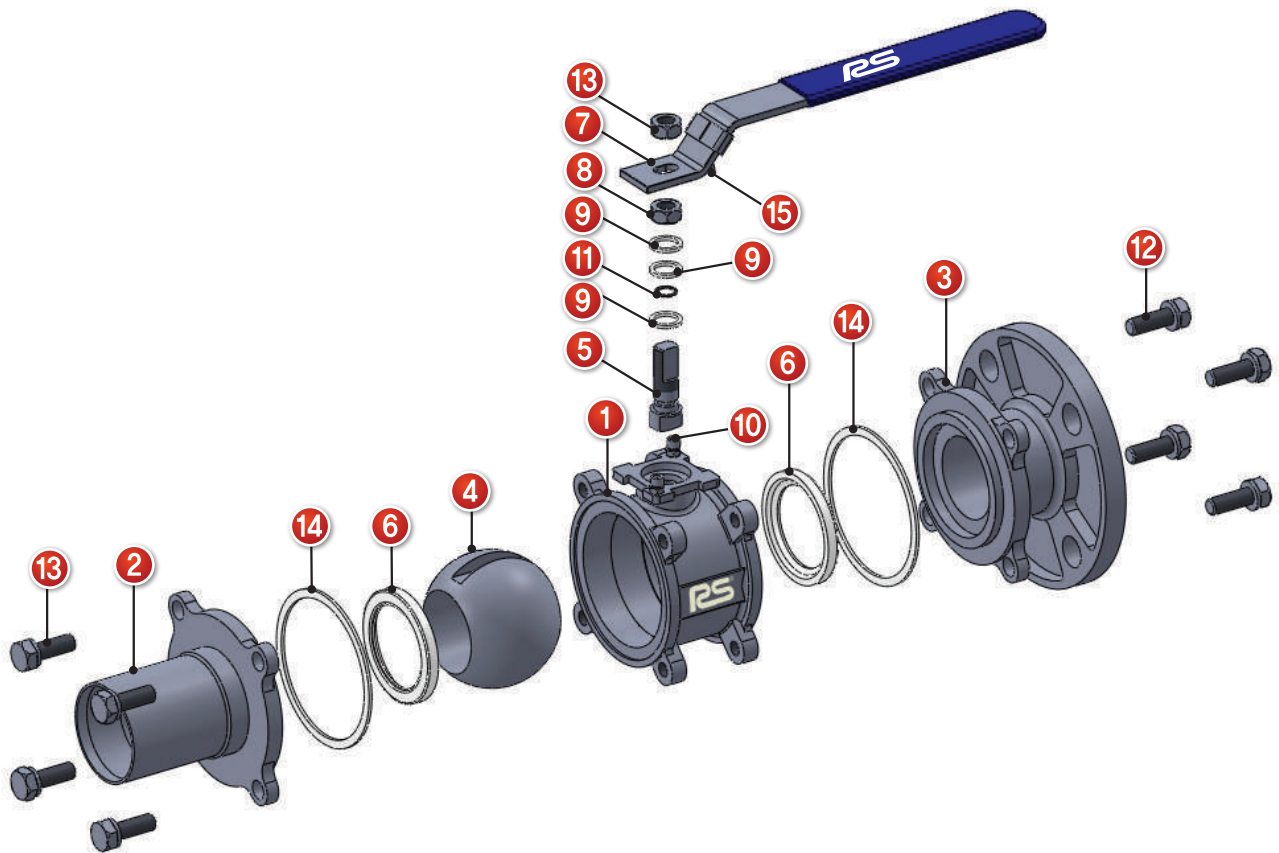
Actuator	
None	Blank
Normal Close	NC
Normal Open	NO

Material	
SUS304	304
SUS316	316

Ordering No. Sample : RBW25A-316-NC-EP

Clean Ball Valve

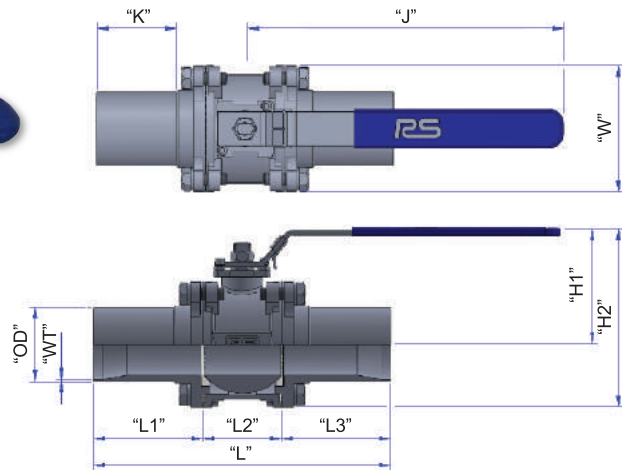
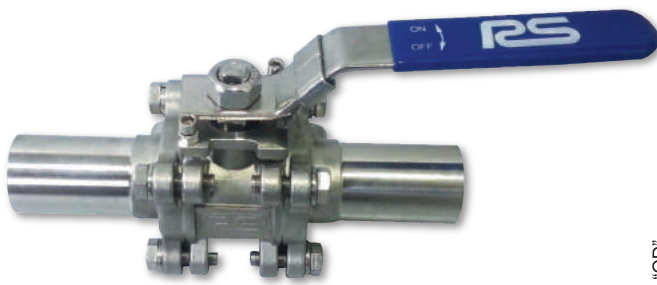
Material Of Construction : 3-Piece Clean Ball Valve



No.	Part's Description	Material	No.	Part's Description	Material
1	Body	CF8M	9	Stem Packing's	PTFE
2	End Cap Pipe	CF8M	10	Adjust Bolts / Nuts	SUS304
3	End Cap Flange	CF8M	11	O-Ring	Viton
4	Ball	SUS316	12	Bolt & Spring Washer	SUS304
5	Stem	SUS316	13	Handle Nut	SUS304
6	Ball Seats	PTFE	14	Body Seal	PTFE
7	Handle	SUS304	15	Locking Device	SUS304
8	Stem Nut	SUS304			

RBW : Tube Butt Weld Connection – Full Port (Bore)

Ordering No.	Size	OD	WT	J	H1	H2	L1	L2	L3	L	K	W	Cv	Wgt (Kgs)
RBW 0.38	3/8"	9.53	1.65	105	50	68.5	30	14	30	74	10	37	9	0.50
RBW 0.5	1/2"	12.7	1.65	105	50	68.5	57	16	57	130	40	37	16	0.60
RBW 0.75	3/4"	19.05	1.65	133	66	91	61	28	61	150	42	51	41	0.90
RBW 1	1"	25.4	1.65	133	67	95	61	33	61	155	42	55	70	0.96
RBW 1.5	1 1/2"	38.1	1.65	153	81	118	75	46	75	196	52	75	186	2.35
RBW 2	2"	50.8	1.65	182	91	134	88	55	88	232	64	86	299	3.38
RBW 2.5	2 1/2"	63.5	1.65	202	99	150	89	64	89	242	65	103	650	5.10
RBW 3	3"	76.2	1.65	258	136	199	91	78	91	260	65	126	950	9.18
RBW 4	4"	101.6	2.10	296	177	276	98	114	98	310	67	224	2317	21.77



RBW : Pipe Butt Weld Connection – Full Port (Bore)

Ordering No.	Size	OD	WT (5S)	WT (10S)	J	H1	H2	L1	L2	L3	L	K	W	Cv	Wgt (Kgs)
RBW 15	15A	21.7	1.65	2.10	133	66	91	61	28	61	150	42	51	41	0.90
RBW 20	20A	27.2	1.65	2.10	133	67	95	61	33	61	155	42	55	75	0.96
RBW 25	25A	34.0	1.65	2.80	153	76	108	73	40	73	186	50	65	120	1.64
RBW 32	32A	42.7	1.65	2.80	153	81	118	75	46	75	196	52	75	202	2.35
RBW 40	40A	48.6	1.65	2.80	182	91	134	88	55	88	232	64	86	299	3.38
RBW 50	50A	60.5	1.65	2.80	202	99	150	89	64	89	242	65	103	529	5.10
RBW 65	65A	76.3	2.10	3.00	258	136	199	91	78	91	260	65	126	932	9.18
RBW 80	80A	89.1	2.10	3.00	258	147	219	94	91	94	279	65	145	1446	12.31
RBW 100	100A	114.3	2.10	3.00	296	177	276	98	114	98	310	67	224	2317	21.77
RBW 150	150A	165.2	2.80	3.40	-	286	449	125	241	125	491	99.5	326	5400	68.4
RBW 200	200A	216.3	2.80	3.40	-	286	449	125	241	125	491	99.5	326	10000	203.0

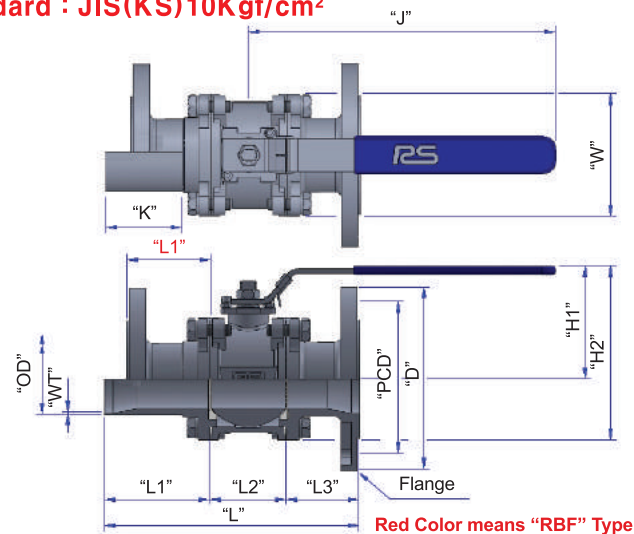
• 125A~300A are available as your request.

Clean Ball Valve

RBWF : Pipe Butt Weld × Flange Connection – Full Port(Bore)

Ordering No.	Size	OD	WT (5S)	WT (10S)	J	H1	H2	L1	L2	L3	L	K	W	Cv	Wgt (Kgs)
RBWF 15	15A	21.70	1.65	2.10	133	70	95	61	28	46	135	42	51	41	1.32
RBWF 20	20A	27.20	1.65	2.10	133	75	100	61	33	50	144	42	55	75	1.48
RBWF 25	25A	34.00	1.65	2.80	153	90	125	73	40	51	164	50	65	120	2.36
RBWF 32	32A	42.70	1.65	2.80	153	100	135	75	46	53	174	52	75	202	3.26
RBWF 40	40A	48.60	1.65	2.80	182	105	140	88	55	62	205	64	86	299	4.33
RBWF 50	50A	60.50	1.65	2.80	202	120	155	89	64	62	215	65	103	529	6.10
RBWF 65	65A	76.30	2.10	3.00	258	140	175	91	78	78	247	65	126	932	10.79
RBWF 80	80A	89.10	2.10	3.00	258	150	185	94	91	78	263	65	145	1446	14.15
RBWF100	100A	114.30	2.10	3.00	296	175	210	98	114	80	292	67	224	2317	23.75

• H1 & H2 are same as RBW Type / Flange Standard : JIS(KS)10Kgf/cm²



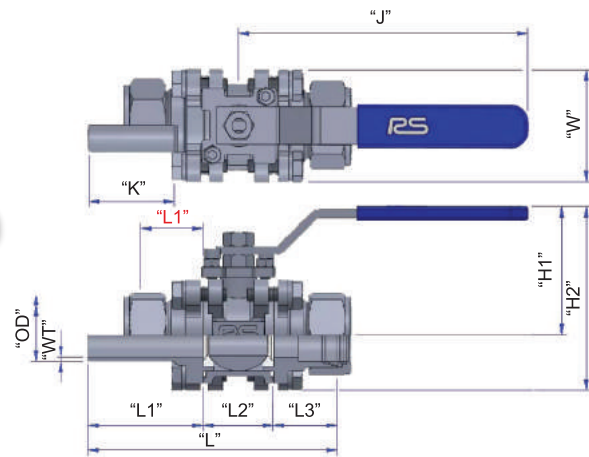
RBF : Flange Connection – Full Port(Bore)

Ordering No.	Size	J	H1	H2	PCD	D	L1	L2	L3	L3	L	W	Cv	Wgt (Kgs)
RBF 15	15A	133	66	91	70	95	46	28	46	61	120	51	41	1.75
RBF 20	20A	133	67	95	75	100	50	33	50	61	133	55	75	1.99
RBF 25	25A	153	76	108	90	125	51	40	51	73	142	65	120	3.08
RBF 32	32A	153	81	118	100	135	53	46	53	75	152	75	202	4.16
RBF 40	40A	182	91	134	105	140	62	55	62	88	178	86	299	5.28
RBF 50	50A	202	99	150	120	155	62	64	62	89	188	103	529	7.10
RBF 65	65A	258	136	199	140	175	78	78	78	91	234	126	932	12.39
RBF 80	80A	258	147	219	150	185	78	91	78	94	247	145	1446	15.99
RBF 100	100A	296	177	276	175	210	90	114	90	98	274	224	2317	25.73

• Flange Standard : JIS(KS)10Kgf/cm²

RBWL : Tube Butt Weld × Compression Fitting(Lok) – Full Port(Bore)

Ordering No.	Size	OD	WT	J	H1	H2	L1	L2	L3	L	K	W	Cv	Wgt (Kgs)
RBWL 0.38	3/8"	9.53	1.65	105	50	68.5	30	14	25	69	10	37	9	0.50
RBWL 0.5	1/2"	12.7	1.65	105	50	68.5	57	16	32	105	40	37	16	0.60
RBWL 0.75	3/4"	19.05	1.65	133	66	91	61	28	36	125	42	51	41	0.90
RBWL 1	1"	25.4	1.65	133	67	95	61	33	36	130	42	55	70	0.96



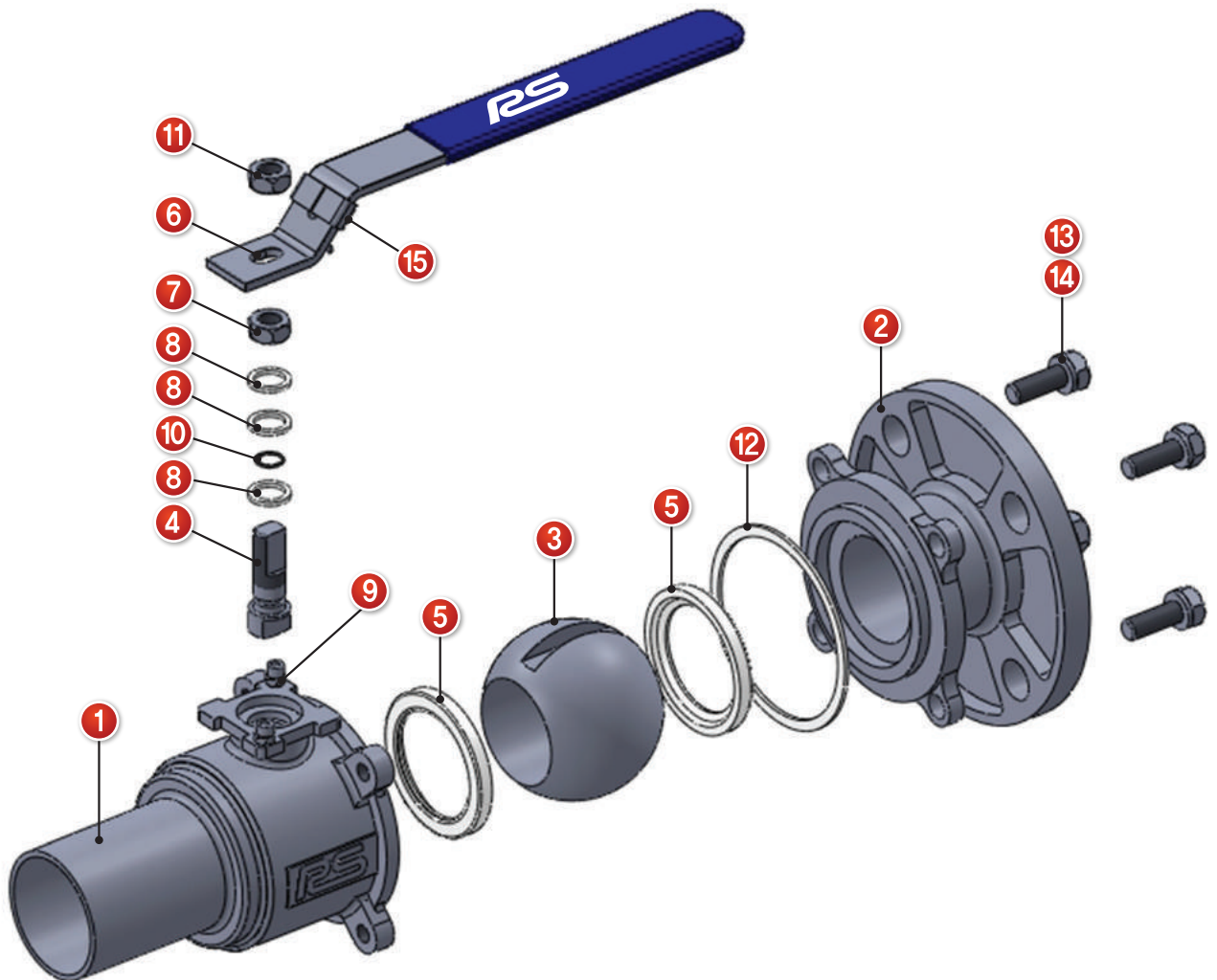
Red Color means "RBL" Type

RBL : Compression Fitting(Lok) – Full Port(Bore)

Ordering No.	Size	OD	WT	J	H1	H2	L1	L2	L3	L	W	Cv	Wgt (Kgs)
RBL 0.38	3/8"	9.53	1.65	105	50	68.5	25	14	25	64	37	9	0.55
RBL 0.5	1/2"	12.7	1.65	105	50	68.5	32	16	32	80	37	16	0.61
RBL 0.75	3/4"	19.05	1.65	133	66	91	36	28	36	100	51	41	0.91
RBL 1	1"	25.4	1.65	133	67	95	36	33	36	105	55	70	0.97

Clean Ball Valve

Material Of Construction : 2-Piece Ball Valve (Oil Free)



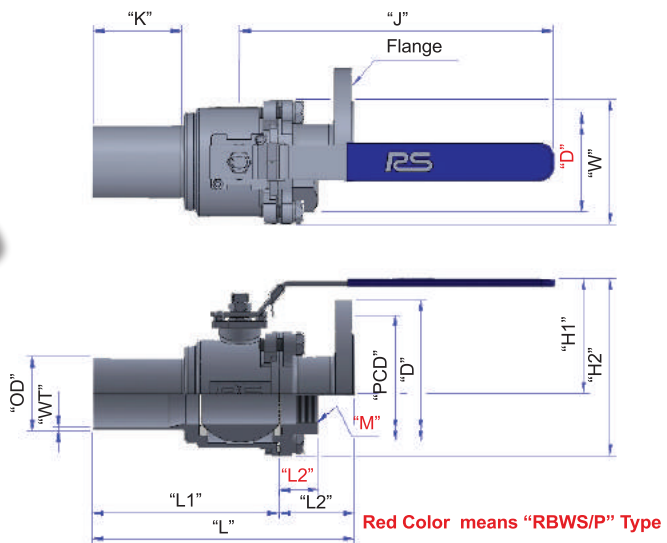
No.	Part's Description	Material	No.	Part's Description	Material
1	Body	CF8	9	Adjust Bolts / Nuts	SUS304
2	End Cap Flange	CF8	10	O-Ring	Viton ^{*1}
3	Ball	SUS304	11	Handle Nut	SUS304
4	Stem	SUS304	12	Body Seal	PTFE
5	Ball Seats	PTFE	13	Hex. Nut	SUS304
6	Handle	SUS304	14	Spring Washer	SUS304
7	Stem Nut	SUS304	15	Locking Device	SUS304
8	Stem Packing	PTFE			

Note : ^{*1} It is possible to change the material in the fluid.

RBWF/P : Pipe Butt Weld × Flange Connection – 2Piece/Full Port(Bore)

Ordering No.	Size	OD	WT (5S)	J	H1	H2	PCD	D	L1	L2	L	K	W	Cv	Wgt (Kgs)
RBWF/P 15	15A	21.70	2.10	133	66	91	70	95	89	56	145	42	51	41	1.12
RBWF/P 20	20A	27.20	2.10	133	67	95	75	100	94	60	154	42	55	75	1.28
RBWF/P 25	25A	34.00	2.80	153	76	108	90	125	113	61	174	50	65	120	2.07
RBWF/P 32	32A	42.70	2.80	153	81	118	100	135	121	63	184	52	75	202	2.82
RBWF/P 40	40A	48.60	2.80	182	91	134	105	140	143	72	215	64	86	299	3.73
RBWF/P 50	50A	60.50	2.80	202	99	150	120	155	153	72	225	65	103	529	5.13
RBWF/P 65	65A	76.30	3.00	258	136	199	140	175	169	78	247	65	126	932	8.97
RBWF/P 80	80A	89.10	3.00	258	147	219	150	185	185	78	263	65	145	1446	12.18
RBWF/P100	100A	114.30	3.00	296	177	276	175	210	212	80	292	67	224	2317	20.35

• Flange Standard : JIS(KS)10Kgf/cm²



RBWS/P : Pipe Butt × Female Connection – 2Piece/Full Port(Bore)

Ordering No.	Size	OD	WT (10S)	J	H1	H2	D (Hex)	M	L1	L2	L	K	W	Cv	Wgt (Kgs)
RBWS/P15	15A	21.70	2.10	133	66	91	27	Rc 1/2	89	21	110	42	51	41	0.64
RBWS/P20	20A	27.20	2.10	133	67	95	33	Rc 3/4	94	22	116	42	55	75	0.70
RBWS/P25	25A	34.00	2.80	153	76	108	40	Rc 1	113	24	137	50	65	120	1.21
RBWS/P32	32A	42.70	2.80	153	81	118	50	Rc 1 1/4"	121	27	148	52	75	202	1.73
RBWS/P40	40A	48.60	2.80	182	91	134	56	Rc 1 1/2"	143	30	173	64	86	299	2.53
RBWS/P50	50A	60.50	2.80	202	99	150	70	Rc 2	153	32	185	65	103	529	3.85

• Flange Standard : JIS(KS)10Kgf/cm²

Clean Ball Valve

RBP : Pneumatic Ball Valves – Full Port(Bore)

Actuator Specification

- Operating Pressure : 4.0 ~ 7.0Kgf/cm²
- Operating Temperature : -20°C~80°C
- Operation Media : Clean Dry Air
- Rotation : 90° ± 5°
- Life Cycle : 500,000

Supply Size

- 1/2" (12.7 O.D) – 4" (101.6 O.D)
- 15A (21.7 O.D) – 100A (114.3 O.D)

Valve Connection

- Welding Type (BW × BW)
- Welding × Flange Type (BW × Flange)
- Flange Type (Flange × Flange)



Specifications

Unit: mm

Actuator Model			GD-35	GD/GS-50	GD/GS-63	GD/GS-75	GD/GS-88	GD/GS-100	GD/GS-125
Approximate Weight	DA	Kg	0.6	1.1	1.7	2.4	4.34	6.3	10.5
	SR	Kg	-	1.2	1.8	2.6	4.95	7.03	11.3
Operating Time	DA	Open(Sec)	0.115	0.15	0.2	0.25	0.4	0.5	0.9
	DA	Close(Sec)	0.15	0.2	0.25	0.35	0.5	0.7	1.2
	SR	Open(Sec)	-	0.2	0.25	0.3	0.5	0.6	1.1
	SR	Close(Sec)	-	0.25	0.3	0.45	0.6	0.9	1.4
Air Volume (Litres)	DA	Open(Sec)	0.04	0.08	0.15	0.3	0.5	0.7	1.53
	DA	Close(Sec)	0.05	0.14	0.25	0.48	0.77	1.1	2.33
	SR	Open(Sec)	-	0.08	0.15	0.3	0.5	0.7	1.54
	SR	Close(Sec)	-	0.14	0.25	0.48	0.77	1.1	2.33

Other Clean Valves



▶ Large Clean Ball Valve

- Handle Type : 125A ~ 200A
- Gear Wheel Type : 200A ~ 300A
- Material : CF8 / CF8M



▶ Sanitary Ferrule Connection

- Size : 3/4S - 4S
- Material : CF8 / CF8M



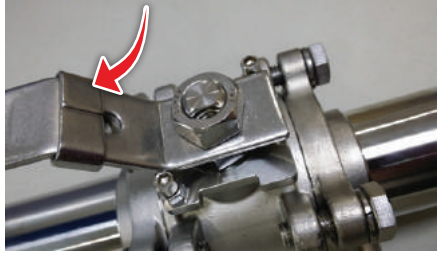
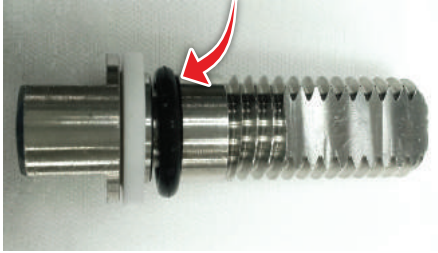
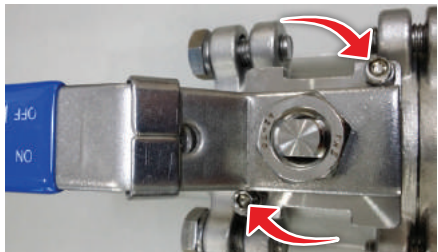
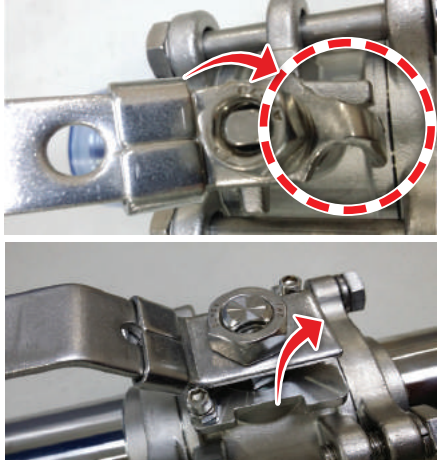
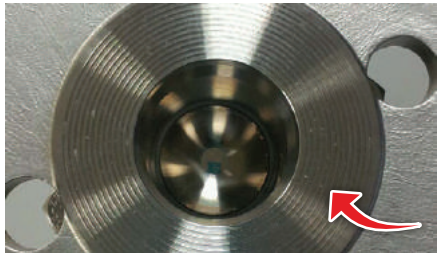
▶ Vacuum Flange Connection

- Size : 1/2" - 4"
- Material : CF8 / CF8M

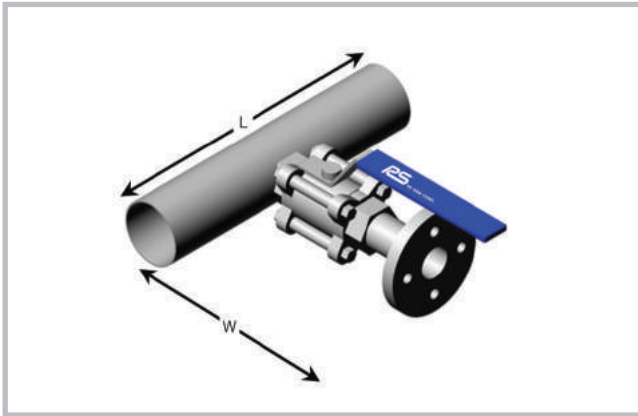
Clean Ball Valve

Feature (Merits) of **RS** Clean Ball Valve

特徴

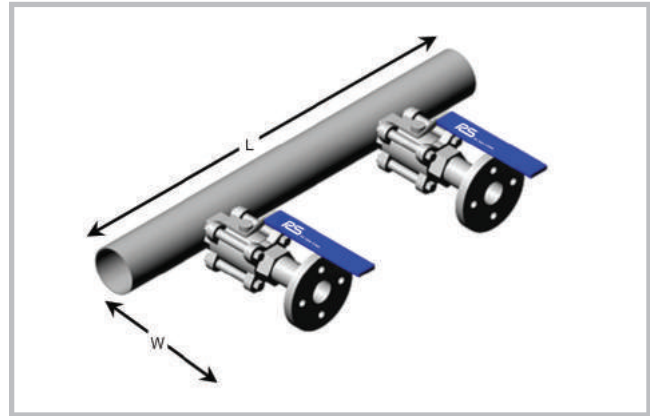
Issues	Main Characteristics	
<p>Locking stopper slides down</p> <p>Valve 작동시 Locking stopper가 하부로 흘러내리는 현상</p>		<p>When putting Locking stopper up, it doesn't slide down to make handle operation easy. (Stopper stops at any position—patent permitting)</p> <p>Lock장치부가 하부로 흘러 내리지 않아 Handle 조작이 용이함 (Stopper가 어느 위치에도 정지함)</p>
<p>Shape of seal in stem part</p> <p>Stem부 Seal 구조</p>		<p>Adding Viton O-ring on bottom of PTFE packing to make double sealing, gland(top of Valve) has no risk of leak.</p> <p>PTFE Packing 하부에 Viton O-ring을 추가되어 2중 구조로 되어 있어 견고한 Seal작용으로 V/V상부(Gland부분)로 Leak 발생이 없다.</p>
<p>Prevention bolt of resistance on flow</p> <p>유로 내턱(저항) 발생 방지 장치</p>		<ul style="list-style-type: none"> • To make ball and body perfect parallel. • To prevent resistance by micro controlling. (patent permitting) • Confronting any resistance, flow can't be smooth and could have high risk of Particle. <ul style="list-style-type: none"> • Ball과 Body가 일직선이 되게하는 장치. • 유로에 턱이 발생하지 않도록 미세 조절하는 장치가 있다. • 유로에 턱이 발생할 경우 와류 현상 등으로 흐름이 원활하지 않고 Particle 발생의 가능성이 높다.
<p>Warp in handle bending part</p> <p>Handle bending 부 휨현상</p>		<p>Stopper shape is not bending type but pin is fixed by both sides, that enables perfect locking and no Stopper for the bending parts.</p> <p>Stopper가 Bending방식이 아닌 양쪽에 Pin으로 되어있어 Lock이 완벽하게 전하게 될뿐만 아니라 Stopper를 위한 Bending 부분이 없다.</p>
<p>Flange shape</p> <p>Flange 면(Face) 형태</p>		<p>Flange face is shaped as spiral, that enables perfect sealing with facing flange and no risk of leak.</p> <p>Flange 면이 나선형태로 만들어져 있어 , 상대 Flange와 약한 조임에도 완벽한 Seal이 되어 누설을 최소화 시켰다.</p>

T-1-Valve(T-1)



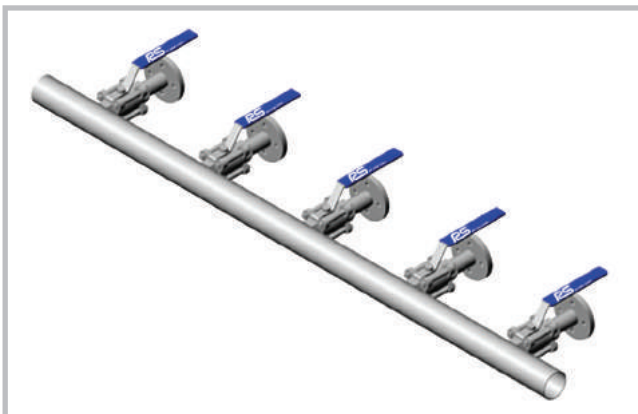
Size	"W" (mm)	"L" (mm)	Size	"W" (mm)	"L" (mm)
50Ax15A	166.00	300	100Ax15A	193.00	500
50Ax25A	177.60	300	100Ax20A	202.00	500
80Ax20A	188.60	500	100Ax25A	222.00	500
80Ax25A	208.60	500	100Ax40A	213.00	500
80Ax40A	250.00	500	100Ax50A	273.00	500

T-2-Valve(T-2)



Size	"W" (mm)	"L" (mm)	Size	"W" (mm)	"L" (mm)
50Ax15A	166.00	800	100Ax15A	193.00	800
50Ax25A	177.60	800	100Ax20A	202.00	800
80Ax20A	188.60	800	100Ax25A	222.00	800
80Ax25A	208.60	800	100Ax40A	213.00	800
80Ax40A	250.00	800	100Ax50A	273.00	800

6M-Manifold Assemblies(T-5)



• 6M, SUS316L/304 Sch10 with RS Ball Veles

Spool(DEHT2)



HEX. Ball Valve

HEX. Ball Valves



Applications

- Gas, Steam, Water Line in onshore and offshore application.
- Utility lines in semiconductor and display panel industries.

Testing

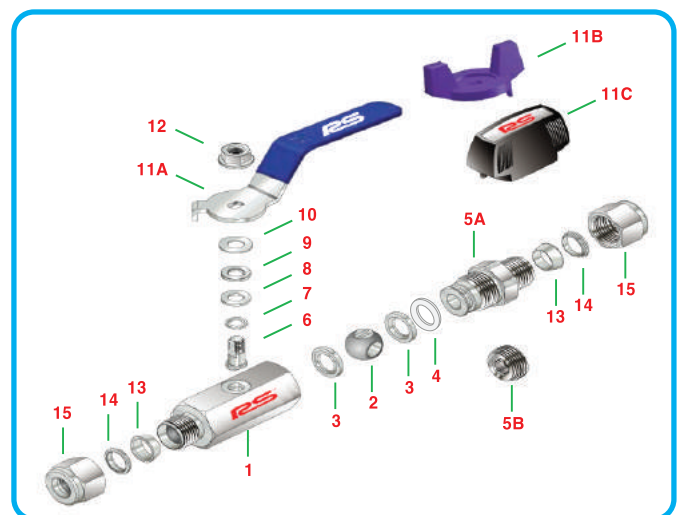
- Every valve is factory tested with air or nitrogen @13 bar (189psig) for leakage at the seat to a maximum allowable leak rate of 0.1 scc/min.

Material of Constructions

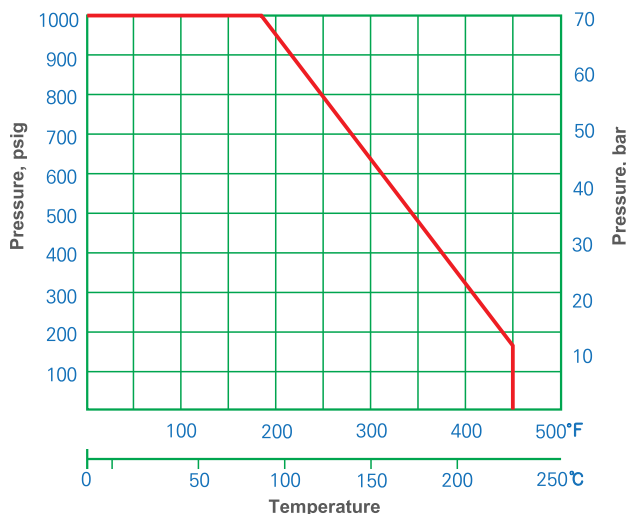
Item	Description	Material
1	Body	ASTM A276/A479 TYPE 316
2	Ball	ASTM A276 TYPE 316
3	Seat	Reinforced PTFE
4	O-Ring	PTFE
5A	End Connector	ASTM A276/A479 TYPE 316
5B	Insert	ASTM A276/A479 TYPE 316
6	Stem	ASTM A276/A479 TYPE 316
7	Lower Packing	Reinforced PTFE
8	Upper Packing	Reinforced PTFE
9	Stem Washer	ASTM A276/A479 TYPE 316
10	Spring Washer	Stainless Steel
11A	Handle	Stainless Steel Lever with Coated (Blue)
11B		Zinc with Nickel Plated
11C		Dielectric Nylon (Black, Blue, Red)
12	Lock Nut	Stainless Steel
13	Front Ferrule	ASTM A276/A479 TYPE 316
14	Backing Ferrule	ASTM A276/A479 TYPE 316
15	Nut	ASTM A276/A479 TYPE 316

Features

- Pressure rating up to 1000psig (68.9 bar) @ 100°F (38°C) with reinforced PTFE seats.
- Compact designed one piece hexagonal body.
- Blow-out proof design with internally loaded stem.
- Micro-finished ball ensures a leak-tight shut-off on pressure.
- Various selection of handles.



Pressure-Temperature Curves



Ordering Information



1. TYPE

- HBV : Tube Fitting (LOK) • HBF : Female Thread
- HBWT : Tube Butt Weld to Tube Fitting (LOK)
- HBWP : Pipe Butt Weld to Tube Fitting (LOK)
- HBWF : Pipe Butt Weld to Female Thread

2. SIZE

• Tube O.D Designation

Tube O.D(Inch)	1/4"	3/8"	1/2"	3/4"	1"
Designation	04	06	08	12	16

Tube O.D(mm)	6	8	10	12	16
Designation	6M	8M	10M	12M	16M

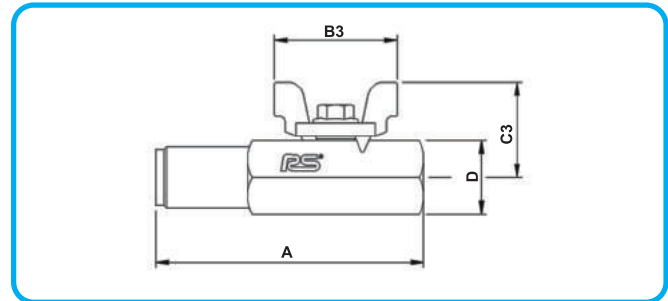
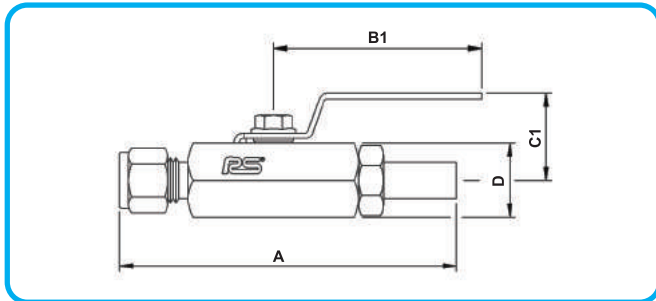
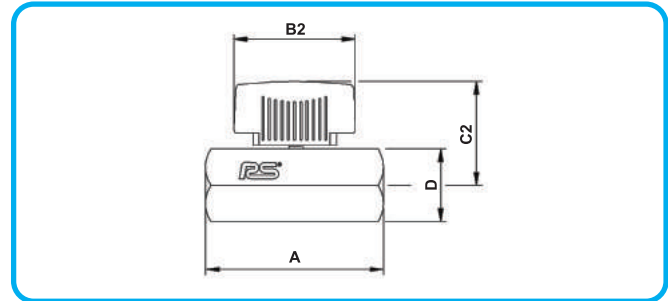
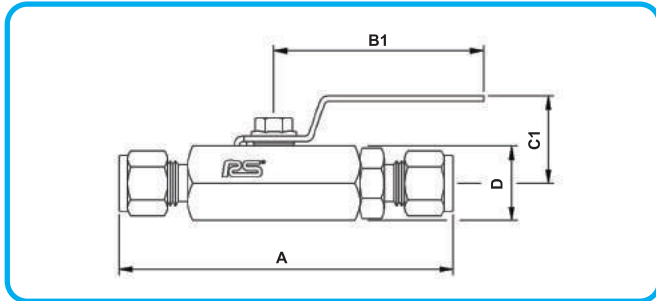
• Pipe Thread Designation

Size	1/4"	3/8"	1/2"	3/4"	1"
NPT	04N	06N	08N	12N	16N
PT	04R	06R	08R	12R	16R

3. HANDLE

- Nil : Lever Handle • B : Butterfly Handle
- NR : Nylon Handle (RED) • NB : Nylon Handle (BLUE)
- NK : Nylon Handle (BLACK)

For use with 1/4" thru 1" Tube and Piping Systems



Ordering Information & Dimensions

Part No.	End Connections		Orifice (mm)	Cv	Dimensions (mm)							Weight (Kg)								
	Inlet	Outlet			A	B1	B2	B3	C1	C2	C3		D (Hex)							
HBV-6M	6mm Lok	6mm Lok	5	1.25	79.5	60	43	30	31	33	23	17.4	0.14							
HBV-04T	1/4" Lok	1/4" Lok		1.25	79.5								0.07							
HBF-04N (R)	1/4" Female NPT (PT)	1/4" Female NPT (PT)		1.4	40								0.14							
HBWT-04T04T	1/4" Tube	1/4" Lok		1.25	79.5															
HBV-8M	8mm Lok	8mm Lok		1.4	84.5															
HBV-10M	10mm Lok	10mm Lok		2.6	90								7.5	80	43	48	40	35	31	22.2
HBV-06T	3/8" Lok	3/8" Lok	2.5	90	0.14															
HBF-06N (R)	3/8" Female NPT (PT)	3/8" Female NPT (PT)	2.6	45	0.23															
HBWT-06T06T	3/8" Tube	3/8" Lok	2.5	109.7																
HBV-12M	12mm Lok	12mm Lok	9	99	80	52	50	42	43	34	26.9	0.36								
HBV-08T	1/2" Lok	1/2" Lok		99								0.22								
HBV-08N (R)	1/2" Female NPT (PT)	1/2" Female NPT (PT)		54.5								0.36								
HBWT-08T08T	1/2" Tube	1/2" Lok		109.7								0.37								
HBWP-15A08T	15A Pipe	1/2" Lok		114.7								0.30								
HBWF-15A08N (R)	15A Pipe	1/2" Female NPT (PT)		95																
HBV-16M	16mm Lok	16mm Lok	10.6	109	12.5	100	52	55	51	46	39	31.7	0.51							
HBV-12T	3/4" Lok	3/4" Lok		110									0.34							
HBV-12N (R)	3/4" Female NPT (PT)	3/4" Female NPT (PT)		61									0.51							
HBWT-12T12T	3/4" Tube	3/4" Lok		129.2									0.52							
HBWP-20A12T	20A Pipe	3/4" Lok		121.2									0.36							
HBWF-20A12N (R)	20A Pipe	3/4" Female NPT (PT)		100																
HBV-16T	1" Lok	1" Lok	16	55.0	17.4	100	62	68	55	56	45	38.0	0.87							
HBV-16N (R)	1" Female NPT (PT)	1" Female NPT (PT)		75.0									0.62							
HBWT-16T16T	1" Tube	1" Lok		137.3									0.87							
HBWP-25A16T	25A Pipe	1" Lok		146.3									0.89							
HBWF-25A16N (R)	25A Pipe	1" Female NPT (PT)		115									0.64							

• All Dimensions shown are for reference only, subject to change.

Safety in Valve Selection

- Proper installation, operation and maintenance of the designer and the user.
- The selection of a valve for any application or total system design must be considered to ensure safe performance.

Key Operation Ball Valves

Key Operation Ball Valves

Applications

- Gas, Steam, Water Line in onshore and offshore application.
- Utility lines in semiconductor and display panel industries.

Testing

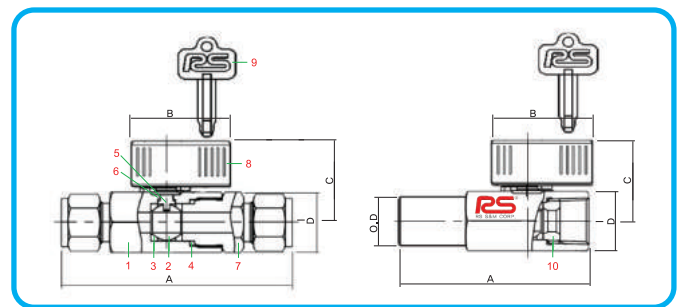
- Every valve is factory tested with air or nitrogen @13 bar (189psig) for leakage at the seat to a maximum allowable leak rate of 0.1 scc/min.

Testing

- Pressure rating up to 1000psig(68.9 bar) @ 100 °F(38 °C)
- with reinforced PTFE seats.
- Compact designed one piece hexagonal body.
- Blow-out proof design with internally loaded stem.
- Micro-finished ball ensures a leak-tight shut-off on pressure.
- Various selection of handle colour.

Material of Constructions

Item	Description	Material
1	Body	ASTM A276/A479 TYPE 316
2	Ball	ASTM A276 TYPE 316
3	Seat	Reinforced PTFE
4	Packing	PTFE
5	Stem	ASTM A276/A479 TYPE 316
6	Packing	Reinforced PTFE
6	Stem	ASTM A276/A479 TYPE 316
7	Adapter	ASTM A276/A479 TYPE 316
8	Handle	Aluminum
9	Master Key	SUS 304 or SUS 603
10	Insert	ASTM A276/A479 TYPE 316



Ordering Information & Dimensions

Part No.	End Connections		Orifice (mm)	Cv	Dimensions (mm)				
	Inlet	Outlet			O.D.	A	B	C	D(Hex.)
RS HBV-04T-K	1/4" Lok	1/4" Lok	5	1.25	98.0	54		39.0	17.4
RS HBV-06T-K	3/8" Lok	3/8" Lok	7.5	2.6	109.0			41.0	22.2
RS HBV-08T-K	1/2" Lok	1/2" Lok	9	9.3	99.0			49.0	26.9
RS HBV-12T-K	3/4" Lok	3/4" Lok	12.5	12.7	110.0			52.0	31.7
RS HBV-16T-K	1" Lok	1" Lok	16	17.4	134.0			62.0	38.0
RS HBWF-15A08N-K	15A Pipe	1/2" Female NPT	9	9.3	21.7	54		49.0	26.9
RS HBWF-20A12N-K	20A Pipe	3/4" Female NPT	12.5	12.7	27.2			52.0	31.7
RS HBWF-25A16N-K	25A Pipe	1" Female NPT	16	17.4	34.0			62.0	38.0

• All Dimensions shown are for reference only, subject to change.

Ordering Information



1. TYPE

- HBV : Tube Fitting (LOK)
- HBWF : Pipe Butt Weld to Female Thread




2. COLOR

- R : RED Handle
- B : BLUE Handle

Safety in Valve Selection

- Proper installation, operation and maintenance of the design and the user.
- The selection of a valve for any application or total system design must be considered to ensure safe performance.

Feature Key Lock Ball Valve (1/2)

Issues	Main Characteristics
<p>Valve shape and Operating principles</p> <p>밸브 형상 및 작동 원리</p>	 <p>Insert the master key then the locking pin goes up by the slider. 마스터키를 삽입하여 내부 슬라이더에 의해 잠금핀을 들어올리는 방식</p>
<p>Master Key</p> <p>마스터키</p>	 <p>It is designed to be used regardless of the key direction with the cross section of the key being + shape, so the user does not need to confirm the insertion direction. There is no deformation due to an external impact due to its shape.</p> <p>키의 단면을 +자 모양으로 하여 키 방향에 무관하게 사용을 할 수 있게 설계되어 사용자가 삽입방향을 확인할 필요가 없다. +자 형상이라 외부의 충격에 의한 변형이 없다.</p>
<p>Master Key in direction</p> <p>마스터키 삽입 방향</p>	 <p>Interference between the valve body and the piping is minimized by inserting the master key insert from the top of the handle. 마스터키 삽입을 핸들의 상부에서 삽입하도록 하여 밸브 바디나 배관과의 간섭을 최소화 했다.</p>

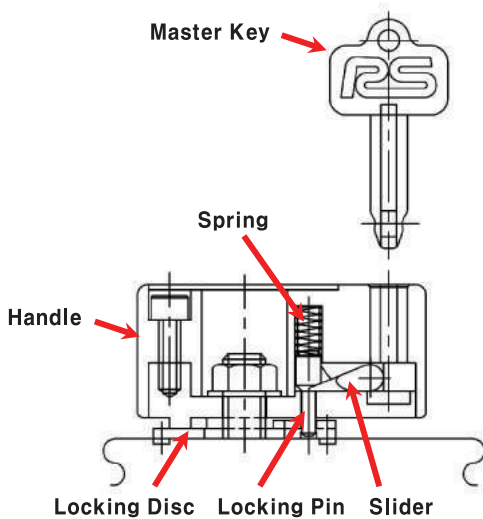
Key Operation Ball Valves

Feature Key Lock Ball Valve (2/2)

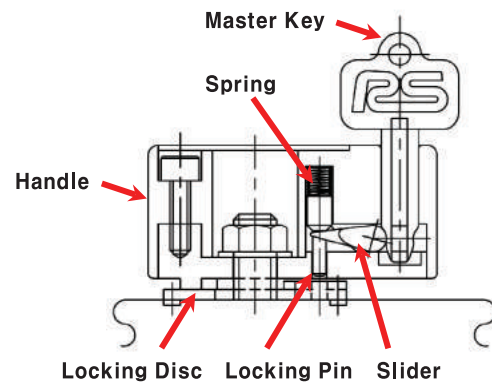
Issues	Main Characteristics
<p>Characteristics 특징</p>	<p>It is possible to prevent the existing master key from being lost due to the resilient force of the locking pin being downwardly curved after the master key is inserted by maintaining the slider end and the end of the master key by the engagement action.</p> <p>마스터키가 삽입된 후 하향 탄발되는 잠금 핀의 탄성력을 슬라이더 단부와 마스터키의 단부가 걸림작용에 의해 삽입상태를 유지하도록 함으로써 기존의 마스터키가 이탈되어 분실되는 것을 방지할 수 있다.</p>

Internal Structure (내부 구조)

기술 특허 출원 번호 : 10-2015-0164512
Design 특허 출원 번호 : 30-2015-0059041
30-2015-0059040



Master key insert lock status
[마스터키 삽입 잠금 상태]



Master key insert unlock status
[마스터키 삽입 잠금 해제 상태]





Crown Regulator
(Crown - RS)



Diaphragm Pump
(Yamada)



Pressure Reducing Valve



Metal Seal &
Weld Fittings



Tube Compression Fittings
(Lok)



Tube, Pipe & Bending
Fitting



Diaphragm & Bellows Valve



Teflon Tube & Fittings
(PFA/PTFE)



Auto Damper
(Chamber Pressure Control)

Conversion Table

Conversion Table

Pressure Conversion Chart								
PSI	ATM	kg/cm ²	in.H ₂ O	mmHg	in.Hg	kPa	Bar	mmH ₂ O
1	0.068046	0.070307	27.7276	51.715	2.03602	6.895	0.06895	704.28104
14.696	1	1.0332	407.484	760	29.921	101.325	1.01325	10350.0936
14.2233	0.96784	1	394.38	735.559	28.959	98.096	0.98067	10000
0.036092	0.002454	0.00253	1	1.8651	0.07343	0.249	0.00249	25.4
0.019336	0.001315	0.001359	0.53616	1	0.03937	0.1333	0.001333	13.618464
0.4951154	0.0033421	0.03453	13.6185	25.4	1	3.3864	0.033864	345.9099
0.145	0.00987	0.010197	4.0186	7.5006	0.2953	1	0.01	102.07244
14.5038	0.98692	1.01972	402.156	750.062	29.53	100	1	10214.7624
0.00142	0.000097	0.0001	0.03937	0.0734	0.0029	0.098	0.000098	1

Volume Conversion Chart							
Gallon(US)	Cubic Feet	Cubic Inches	Barrels(Oil)	Cubic cm	Cubic Meter	Liter	Imp.Gallon
1	0.1337	231	0.02381	3785	0.003785	3.785	0.8327
7.481	1	1728	0.1781	28320	0.02832	28.32	6.229
0.004329	0.000578	1	0.000103	16.39	0.000016	0.01639	0.003605
42	5.615	9702	1	159000	0.159	158.94	34.97
0.000264	0.000035	0.06102	0.000006	1	0.000001	0.001	0.00022
264.17	35.3144	61023	6.2906	1000000	1	1000	220.1
0.264	0.0353	61.03	0.0629	1000	0.001	1	0.22
1.201	0.1606	277.4	0.0286	4546	0.004546	4.546	1

Mass Conversion Chart							
lb.	oz.	kg	gm	gal H ₂ O(32F)	long ton	metric tonne	ton
1	16	0.4536	453.6	0.1198	0.000446	0.000453	0.0005
0.0625	1	0.02835	28.35	0.00749	0.000027	0.000028	0.000031
2.205	35.27	1	1000	0.2642	0.009839	0.001	0.001102
0.002205	0.03527	0.001	1	0.000264	0.000000	0.000001	0.000001
8.345	133.5	3.785	3785	1	0.003726	0.003786	0.004171
2240	35840	1016.4	1016363	268.352	1	1.016	1.12
2204.6	35273	1000	1000000	264.11	0.9842	1	1.1023
2000	32000	907.03	909090.9	239.7	0.892857	0.907194	1

Density Conversion Chart			
lb. / ft ³	gm / cm ²	kg / m ³	lb / in ³
1	0.016018	16.0184	0.000578
62.43	1	1000	0.03613
0.06243	0.001	1	0.000036
1728	27.68	27679.8	1

인증 현황

CE인증서

CERTIFICATE



European Quality Assurance

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Certificate

of conformity in accordance with
European Standard:

Registered No.
KO P 130003 00

Reference of applicant	Date of application	File reference	Test report No.	Date of issue	Expiry date
	2013.04.10	E-R 13.04.10	TR-ETC-0902	2013.04.30	2016.06.00

This is to certify that the following products comply to the essential requirements of the above mentioned European standard:

Certificate Holder: RS Incorporated
C-307, Bundang Techno Park, 280, Yatap Nam-Ro, Bundang-Gu, Sungnam-Si, Gyunggi-Do, 463-816 South Korea

Manufacturer: "Same as above"

Product: Ball Valve

Type designation(s): Ball Valve RBWF25

Standard(s): EN 12266-1: 2012, KS B 0802: 2008, KS B 2308: 2009, KS B ISO 5208: 2012

Remark:

This Certification of Conformity is based on the sample evaluation for products which does not involve the assessment on production process. Please note that this certificate does not permit the use of conformity mark or safety mark by European Quality Assurance.




European Quality Assurance

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E-mail: eqa@eraqc.com

Certification Body for Product Safety

CE marking can be affixed on the product if all relevant and effective Directives are complied with. CE

Clean Ball Valve 디자인등록증



디자인등록증

CERTIFICATE OF DESIGN REGISTRATION

등록번호 (REGISTRATION NUMBER)	제 30-0758612 호	출원번호 (APPLICATION NUMBER)	제 2013-0020953 호
출원일 (FILING DATE)	2013년 04월 22일	등록일 (REGISTRATION DATE)	2014년 08월 21일
등록의 구분 (TYPE OF REGISTRATION)	심사등록 (EXAMINED REGISTRATION)		

디자인의 대상이 되는 물건 (ARTICLE THAT IS THE OBJECT OF THE DESIGN)
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경기도 성남시 분당구 아람남로 280, C동307호(아람동, 분당테크노파크)

창작자 (CREATOR)
박재성(640701-1+*****)
경기도 성남시 분당구 아람남로 163, 204동 1401호(아람동, 국민아울렛심야파크)

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(THIS IS TO CERTIFY THAT THE DESIGN IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2014년 08월 21일



특허청장 김 영

COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE



연사등록료는 2017년부터 매년 08월 21일까지 납부하여야 하며, 등록원부도 관리권자를 확인하십시오.

Key Lock Valve 디자인등록증

디자인등록증

CERTIFICATE OF DESIGN REGISTRATION

등록번호 (REGISTRATION NUMBER)	제 30-0863644 호
출원번호 (APPLICATION NUMBER)	제 30-2015-0059040 호
출원일 (FILING DATE)	2015년 11월 24일
등록일 (REGISTRATION DATE)	2016년 07월 07일
등록의 구분 (TYPE OF REGISTRATION)	심사등록 (EXAMINED REGISTRATION)

출원품 Class: 제23류
디자인의 대상이 되는 물건 Product: 유압 제어 밸브용 현틀

디자인권자 Owner: 아레스 주식회사(131111-0+*****)
경기도 성남시 분당구 아람남로 280, C동307호(아람동, 분당테크노파크)

창작자 Creator: 등록사항만에 기재

위의 디자인은 「디자인보호법」에 따라 디자인등록원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Design Protection Act, a design has been registered at the Korean Intellectual Property Office.



2016년 07월 07일

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최 동 규

Key Lock Valve 디자인등록증

디자인등록증

CERTIFICATE OF DESIGN REGISTRATION

등록번호 (REGISTRATION NUMBER)	제 30-0863641 호
출원번호 (APPLICATION NUMBER)	제 30-2015-0059041 호
출원일 (FILING DATE)	2015년 11월 24일
등록일 (REGISTRATION DATE)	2016년 07월 07일
등록의 구분 (TYPE OF REGISTRATION)	심사등록 (EXAMINED REGISTRATION)

출원품 Class: 제06류
디자인의 대상이 되는 물건 Product: 유압 제어 밸브의 현틀 잠금용 키

디자인권자 Owner: 아레스 주식회사(131111-0+*****)
경기도 성남시 분당구 아람남로 280, C동307호(아람동, 분당테크노파크)

창작자 Creator: 등록사항만에 기재

위의 디자인은 「디자인보호법」에 따라 디자인등록원부에 등록되었음을 증명합니다.
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2016년 07월 07일

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