

# TLV<sub>®</sub> QuickStation<sub>™</sub>

# MODEL QS10

## COMPACT STAINLESS STEEL STEAM TRAP STATION WITH BUILT-IN BALL VALVES

## **Features**

Compact, reliable steam trap station for steam mains, tracers, and light processes. QuickStation enables condensate drainage from a wide range of applications, and inline replacement of universal flange steam traps in minutes.

- 1. Two-bolt flange universal connector allows quick trap replacement or cleaning without disturbing piping.
- 2. All-in-one design, featuring upstream and downstream isolation valves.
- 3. Built-in check valve with tight closure ensures long service life.
- 4. Wetted parts are stainless steel and high-grade rubber or resin for high durability and corrosion resistance.
- 5. Optional elbow-type blowdown valve available for safer condensate blowdown and scale removal.
- 6. Equipped with handle locks for prevention of valve misoperation.
- 7. Enables installation of steam traps on horizontal or vertical lines.
- Models with double upstream isolation valves and with 90° double isolated piping section also available.



## **Specifications**

Model		QS10-B	QS10-B QS10-D QS10-T QS10-TD						
Connection			Screwed, Socket Welded, Flanged						
Valve Port			Full Bore						
Number of Valves	Primary Side	1	2	3	3				
Number of valves	Secondary Side	1	1	1	2				
Size (mm)			15, 20, 25						
Maximum Operating Pres	ssure (MPaG) PMO	1.0*							
Maximum Operating Tem	perature (°C) TMO	185*							

\* For trap station only; further restricted by mounted trap unit.

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 1.0

Maximum Allowable Temperature (°C) TMA: 185

Minimum Allowable Temperature (°C): -40

1 MPa = 10.197 kg/cm<sup>2</sup>

Valve open

To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description	Material	JIS	ASTM/AISI*
1	Body	Cast Stainless Steel	_	A351/A351M Gr.CF8
2	Cover	Cast Stainless Steel	_	A351/A351M Gr.CF8
3	Ball	Stainless Steel	SUS316	AISI316
4	Valve Seat	Fluorine Resin	R-PTFE	R-PTFE
(5)	Body Gasket	Fluorine Resin	PTFE	PTFE
6	Thrust Washer	Fluorine Resin	PTFE	PTFE
7	Gland Gasket	Fluorine Resin	PTFE	PTFE
8	O-ring	Fluorine Rubber	FPM	D2000HK
9	Gland Nut	Stainless Steel	SUS304	AISI304
10	Valve Stem	Stainless Steel	SUS316	AISI316
11)	Inlet Cover Bolt	Stainless Steel	SUS304	AISI304
12	Inlet Cover Nut	Stainless Steel	SUS304	AISI304
(13)	Handle Nut	Stainless Steel	SUS304	AISI304
(14)	Spring Washer	Stainless Steel	SUS304	AISI304
(15)	Handle	Stainless Steel	SUS304	AISI304
16)	Handle Stop Bolt	Stainless Steel	SUS304	AISI304
17)	Stop Bolt Nut	Stainless Steel	SUS304	AISI304
18)	Connector Body	Cast Stainless Steel	_	A351/A351M Gr.CF8
(19)	Screen Inside/Outside	Stainless Steel	SUS304/430	AISI304/430
20	Screen Holder Gasket	Stainless Steel	SUS316L	AISI316L
21)	Screen Holder	Cast Stainless Steel	_	A351/A351M Gr.CF8
22	Nameplate	Stainless Steel	SUS304	AISI304
23	Check Valve	Cast Stainless Steel	_	A351/A351M Gr.CF8
24)	Disc	Stainless Steel	SUS303	AISI303
25)	Coil Spring	Stainless Steel	SUS304	AISI304
26)	Spring Holder	Stainless Steel	SUS304	AISI304
27)	Spacer	Stainless Steel	SUS304	AISI304
28)	Outlet Cover Bolt	Stainless Steel	SUS304	AISI304
29	BD2 Blowdown Valve**	Stainless Steel	SUS304	AISI304
30	Extension***	Cast Stainless Steel	_	A351/A351M Gr.CF8

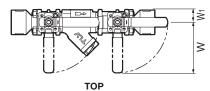
position FRONT QS10-B

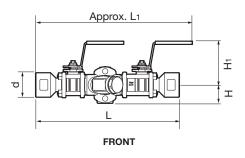
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Equivalent materials \*\* Option \*\*\* Shown on reverse Consult TLV for available replacement parts.

## **Dimensions**

#### **QS10-B** Screwed

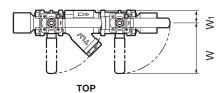


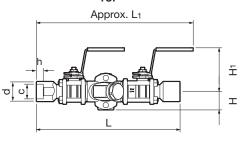


### QS10-B Screwed\*

QUIT	J-D	OCIC	wca					(11111)
Size	L	L <sub>1</sub> **	Н	H <sub>1</sub>	W***	W <sub>1</sub>	φd	Weight (kg)
15								2.8
20	270	300	35	85	95	23.5	46	2.7
25								2.6

#### **QS10-B** Socket Welded



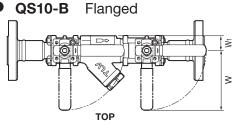


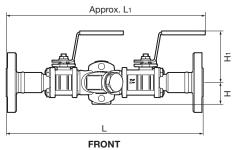
## **FRONT**

## Socket Welded\*

QS10-B Socket Welded*									(mm)	
Size	L	L <sub>1</sub> **	Н	H <sub>1</sub>	W***	W <sub>1</sub>	φd	φс	h	Weight (kg)
15							30	21.8		2.8
20	270	300	35	85	95	23.5	36	27.2	13	2.7
25							44	33.9		2.6

<sup>\*</sup> ASME B16.11-2005, other standards available \*\* At full-open position \*\*\* At full-close position





	QS10-B Flanged										
Size		L ASME Class		L <sub>1</sub> *	Н	H <sub>1</sub>	W**	W <sub>1</sub>	Weight*** (kg)		
		150RF	300RF						(Ng)		
	15	337	337	330					4.5		
	20	357	357	340	35	85	95	23.5	5.7		
	25	377	377	350					5.8		

<sup>\*</sup> Rc(PT); other standards available
\*\* At full-open position \*\*\* At full-close position

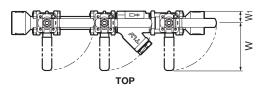
Other standards available, but length and weight may vary

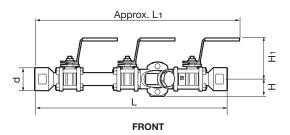
\* At full-open position \*\* At full-close position \*\*\* Weight is for Class 300RF



## **Dimensions**

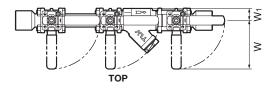
#### **QS10-D** Screwed

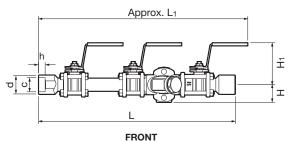




QS10-D Screwed*										
Size	L	L <sub>1</sub> **	Н	H <sub>1</sub>	W***	W <sub>1</sub>	φd	Weight (kg)		
15								3.6		
20	385	415	35	85	95	23.5	46	3.5		
25								3.4		

#### **QS10-D** Socket Welded





#### QS10-D Socket Welded\* (mm) Weight (kg) W\*\*\* Н H1 Size $W_1$ $\phi d$ φс 15 30 21.8 3.6 20 385 415 35 85 95 23.5 36 27.2 3.5

33.9

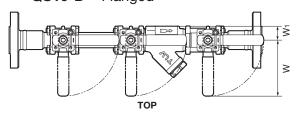
3.4

6.6

44

\* ASME B16.11-2005, other standards available \*\* At full-open position \*\*\* At full-close position

#### **QS10-D** Flanged



Approx. L1	
	± ±
FRONT	

#### QS10-D Flanged (mm) Weight\*\*\* W\*\* Size ASME Class Н H1 W<sub>1</sub> (kg) 150RF 300RF 15 452 452 445 5.3 20 472 472 455 35 85 95 23.5 6.5

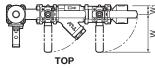
Other standards available, but length and weight may vary
\* At full-open position \*\* At full-close position \*\*\* Weight is for Class 300RF At full-open position

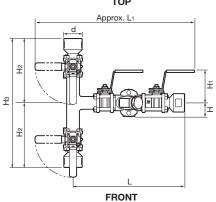
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<sup>\*</sup> Rc(PT); other standards available
\*\* At full-open position \*\*\* At full-close position

## **Dimensions**

#### **QS10-T** Screwed





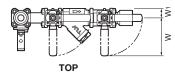
QS10-T Screwed*											
Size	L	L <sub>1</sub> **	Н	H <sub>1</sub>	H <sub>2</sub>	Нз	W***	W <sub>1</sub>	φd	Weight (kg)	
15										5.0	
20	280	400	35	85	161.5	323	95	23.5	46	4.9	
25										4.8	

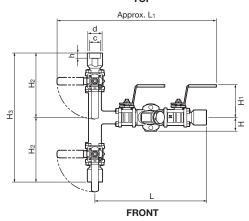
\* Rc(PT); other standards available \*\* Maximum possible length \*\*\* At full-close position

280

25

#### **QS10-T** Socket Welded





QS1	<b>0-T</b> S	Socket Welded*					
Size	L	L <sub>1</sub> **	Н	H <sub>1</sub>	H <sub>2</sub>	Нз	
15							

Size	W***	W <sub>1</sub>	φd	φс	h	Weight (kg)
15			30	21.8		5.0
20	95	23.5	36	27.2	13	4.9
25			44	33.9		4.8

85

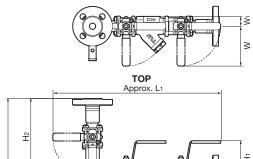
161.5

323

400

\* ASME B16.11-2005, other standards available \*\* Maximum possible length \*\*\* At full-close position

#### QS10-T Flanged



			U	U	
		-	TOP Approx. L1		ł
H3	ΞΞ				Σ Σ
3	H H		 1 	U	
		-	FRONT		

#### QS10-T Flanged (mm) Weight\*\*\* ASME Class W\*\* Н H1 $H_2$ Нз (kg) 150RF | 300RF 313.5 388 6.7 15 313.5 194 20 323.5 323.5 85 204 408 23.5 7.9 8.0

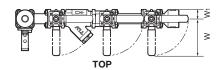
Other standards available, but length and weight may vary

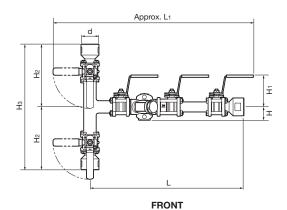
\* Maximum possible length \*\*\* At full-close position

\*\*\* Weight is for Class 300RF

## **Dimensions**

#### QS10-TD Screwed

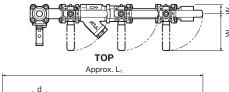


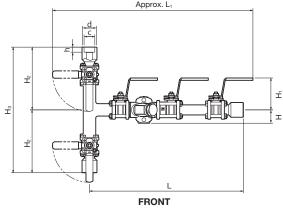


QS10-TD Screwed* (m										
Size	L	L1**	Н	H <sub>1</sub>	H <sub>2</sub>	Нз	W***	W <sub>1</sub>	φd	Weight (kg)
15										5.8
20	400	520	35	85	161.5	323	95	23.5	46	5.7
25										5.6

\* Rc(PT); other standards available \*\* Maximum possible length \*\*\* At full-close position

## QS10-TD Socket Welded



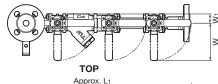


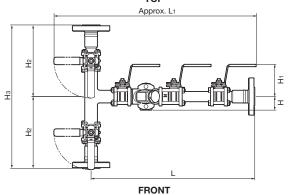
0910-TD	Socket Welded

QS10-ID Socket Welded* (m)						
Size	L	L1**	Н	H <sub>1</sub>	H <sub>2</sub>	Нз
15						
20	400	520	35	85	161.5	323
25						

Size	W***	W <sub>1</sub>	φd	φс	h	Weight (kg)
15			30	21.8		5.8
20	95	23.5	36	27.2	13	5.7
25			44	33.9		5.6

#### QS10-TD Flanged





QSTU-TD Flanged (mm)										
Size	ASME	Class	L <sub>1</sub> *	Н	Нı	H <sub>2</sub>	Нз	W**	W <sub>1</sub>	Weight*** (kg)
	150RF	300RF								(1.9)
15	428.5	428.5				194	388			7.5
20	438.5	438.5	520	35	85	204	408	95	23.5	8.7
25	448.5	448.5				214	428			8.8
Other standards available, but length and weight may you										

Other standards available, but length and weight may vary 
\* Maximum possible length \*\* At full-close position
\*\*\* Weight is for Class 300RF

<sup>\*</sup> ASME B16.11-2005, other standards available \*\* Maximum possible length \*\*\* At full-close position



## **Mounted Steam Trap Units**

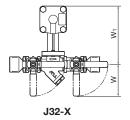
QuickStation QS10 accommodates steam trap units for condensate drainage from a wide range of applications, including process use and steam mains.

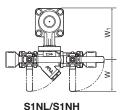
**Dimensions with Mounted Steam Trap Units** 

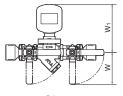
(mm)

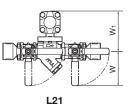
Model	W*	W <sub>1</sub> **	Weight (kg)***
J32-X		175	5.0
S1NL/S1NH	95	155	4.9
S3		145	3.8
L21		110	3.9
P46UC		105	3.8

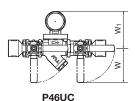
<sup>\*</sup> At full-close position \*\* At full-open position \*\*\* Combined weight of QS10-B with mounted trap unit











**S**3

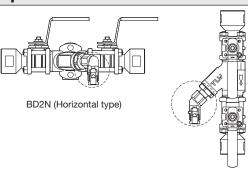
Steam Trap Unit Specifications\*

Model	J32-X	S1NL/S1NH	S3	L21	P46UC
Steam Trap Type	Free Float	Free Float	Free Float	Thermostatic	Thermodynamic
PMO (MPaG)	3.2	2.1	2.1	2.1	4.6
TMO (°C)	240	220/400	400	235	425
Max. Discharge Capacity** (kg/h)	670	200	215	760	740
Trap Image					

<sup>\*</sup> For more information, see the QuickTrap specifications data sheet for the steam trap employing the desired trap unit (trap unit - QuickTrap data sheet): J32-X - FJ32-X; S3 - FS3; L21 - FL21/FL32; P46UC - FP46UC. Contact TLV for details on S1NL/S1NH.

BD2V (Vertical type)

## **Options**



BD2N (Horizontal type) BD2V (Vertical type) The BD2 blowdown valve, installed in place of the screen holder, uses internal pressure to blow out condensate/steam, dirt and scale to the atmosphere.

Manufacturer
TLV CO., LTD.
Kakogawa, Japan
is seproyed by IBOA Ltd. to 80 9001/14001



<sup>\*\*</sup> Capacities shown here will vary depending on orifice numbers, type of X-element and/or pressure differential. Note: The operating pressure and temperature range of the trap unit is limited to that of the QuickStation.