Ball Float Steam Traps

SERIES G

Ball Float Steam Traps belong to the family of mechanical traps. They operate on the difference in density between steam and water. A ball float is connected with a lever to the valve and seat or it is floating freely inside the valve body. Condensate will be discharged once it reaches a certain level inside the trap. Condensate is discharged continuously.

Models

G11N, G12N	Cast Iron Steam Traps for small and medium condensate loads
G15N	Cast Iron Steam Trap for low pressure and large condensate loads
G3N, G5	Ductile Cast Iron Steam Traps for large condensate loads
G2-G8	Cast Iron Steam Traps for large condensate loads
G20N	Ductile Cast Iron Steam Trap for medium condensate loads
GH3N, GH5, GH2-GH8, GH50, GH60, GH70	Cast Steel Steam Traps for large condensate loads
GH40, GTH12	Cast Steel Steam Traps for medium condensate loads
GC1, GC1V	Stainless Steel Steam Traps for small condensate loads
GC20	Stainless Steel Steam Trap for medium condensate loads

Features

- All traps are equipped with stainless steel wear and corrosion resistant float, lever, valve and seat systems for a long and problem free operation.
- Each ball float steam trap is equipped with an air vent for venting air and gases at the time of start-up and during operation.
- The large capacity steam traps like G2-G8,GH2-GH8 use a double ported balance valve system, which is small in its physical size compared with the very high capacity of the traps.
- All traps are designed for quick and easy maintenance.

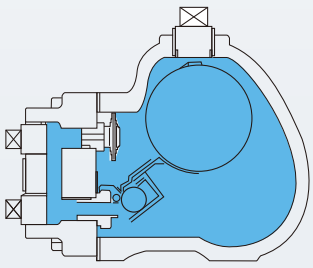
Application

Ball Float Steam Traps can be used in all process applications, like all kind of heat exchangers, tank and unit heaters and others, where condensate must be removed immediately after it forms.

The type GC1 is especially designed for applications in the food, pharmaceutical and other industries with small condensate loads and the need for stainless steel bodies. It can be also installed for drainage of steam main lines.

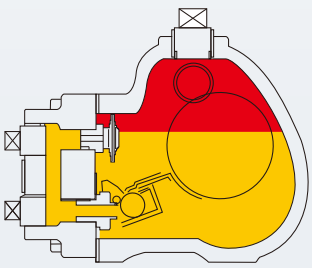
Operating principle

cold condensate steam / hot air hot condensate



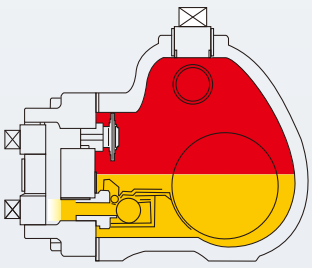
1

On start-up air is quickly discharged through the thermostatic air vent (membrane or bimetal type). Cold condensate fills the steam trap body. As soon as a certain water level is reached, the float rises and opens the valve. The cold condensate is discharged through the open valve and the open air vent.



2

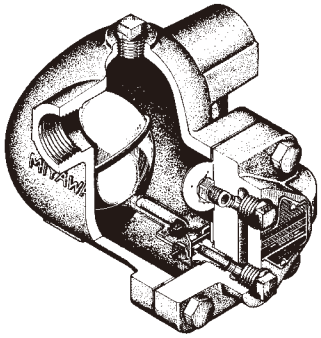
When the condensate reaches saturation temperature, the air vent closes and condensate is discharged only through the main valve orifice. The condensate forms a water seal inside the trap body, which prevents live steam loss at all times.

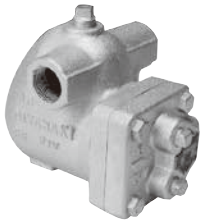


3

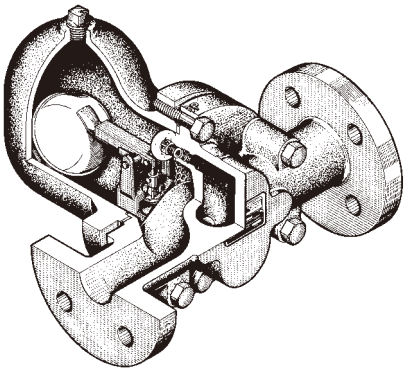
The opening degree of the valve is regulated by the water level inside the trap body. Condensate is discharged continuously. As long as air enters the trap and accumulates at the top of the trap body, the temperature cools down a little bit and the air vent, which opens slightly below saturation temperature, begins to discharge the air from the trap.

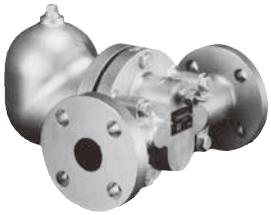
G11N, G12N



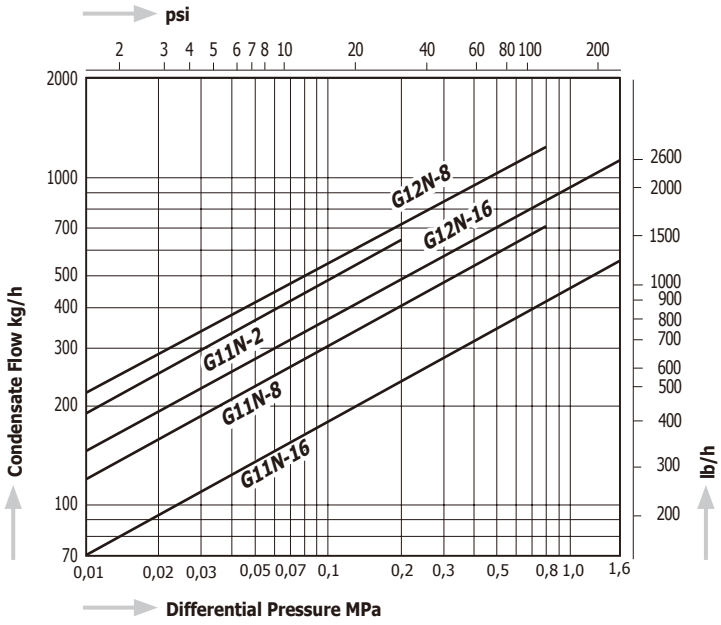


G15N

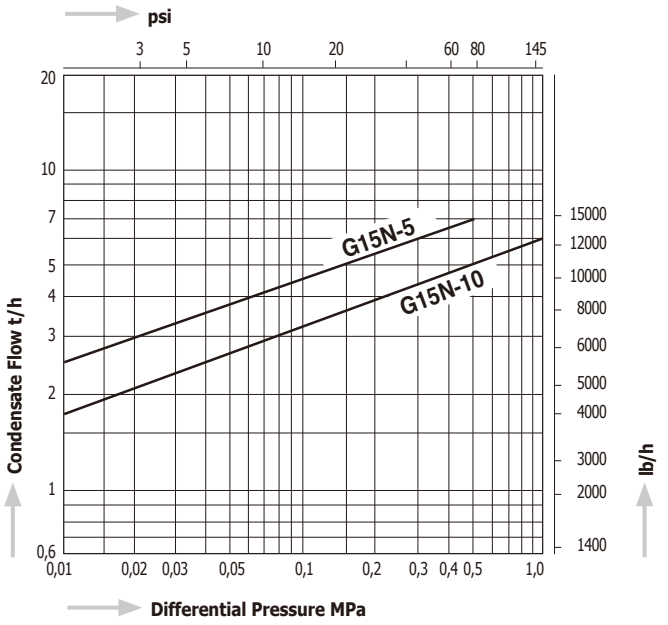




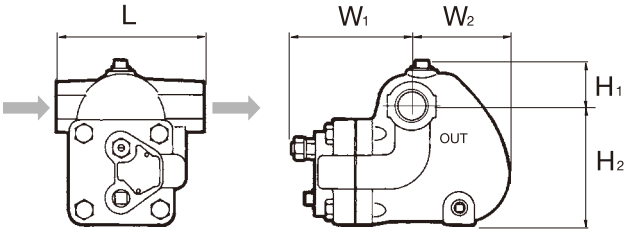
Capacity Chart G11N, G12N



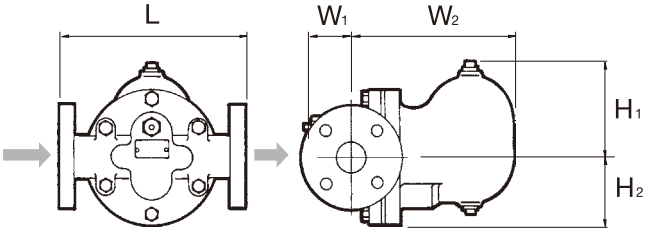
Capacity Chart G15N



Dimensions G11N, G12N



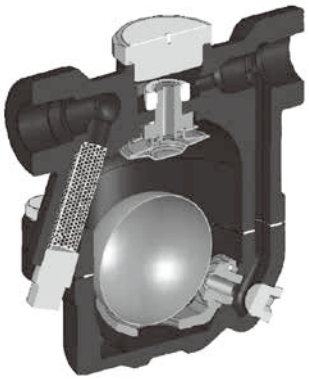
G15N



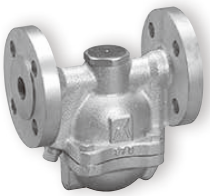
Model		Connections	Size	Max. Operating Pressure		Max. Operating Temperature		Dimensions (mm)					Dimensions (in)					Body Material	Weight	
				MPa	psig	°C	°F	L	H_1	H_2	W_1	W_2	L	H_1	H_2	W_1	W_2		kg	lb
G11N -	2	Screwed Rc, NPT	½¨, ¾¨	0,2	29	220	428	120	37	92	97	60	4.7	1.5	3.6	3.8	2.4	Cast Iron FC250	3,9	8.6
	8			0,8	116															
	16			1,6	230															
G12N -	8	Screwed Rc, NPT	¾¨, 1¨	0,8	116	220	428	140	47	113	102	92	5.5	1.9	4.4	4.0	3.6		6,0	13.2
	16			1,6	230															
G15N -	5	Flanged JIS, ASME, DIN	1¼¨ – 2¨	0,5	73	220	428	300	130	90	30	230	11.8	5.1	3.5	1.2	9.1		20,0	44.0
	10			1,0	145															

For G11N and G12N, flanged connection is available as special design. Please contact MIYAWAKI Inc. or an authorized representative.

G20N

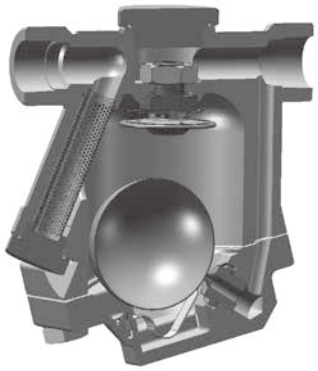


Screwed



Flanged Connection

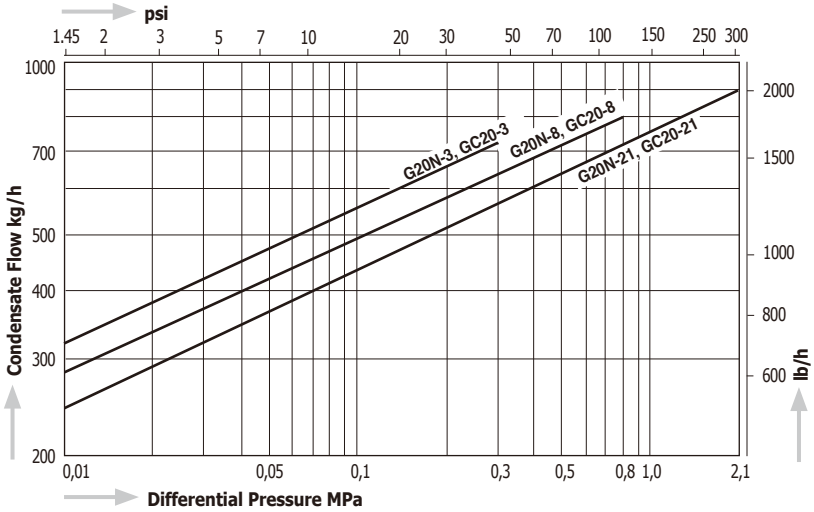
GC20



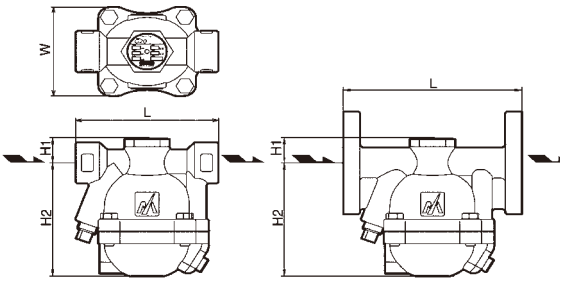
Screwed

Flanged Connection

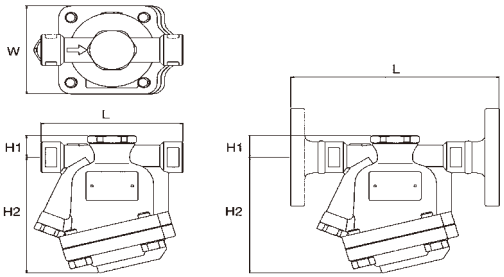
Capacity Chart G20N / GC20



Dimensions G20N



Dimensions GC20



Available versions G20N / GC20

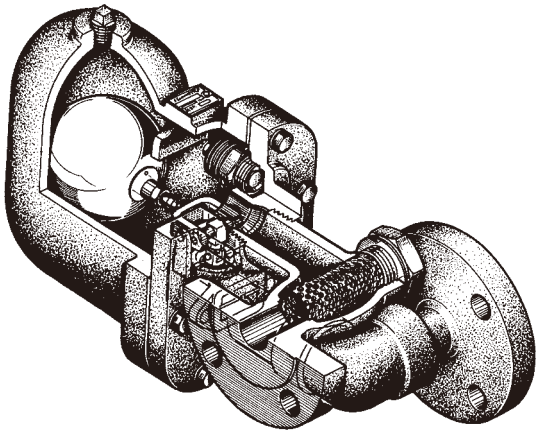
Max. Operating Pressure:

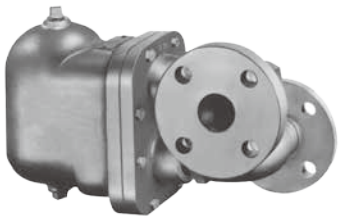
G20N (GC20)- 3 0,3 MPa (43 psig)
G20N (GC20)- 8 0,8 MPa (116 psig)
G20N (GC20)- 21 2,1 MPa (305 psig)

Model	Connections	Size	Max. Operating Pressure, PMO		Max. Operating Temperature, TMO		Dimensions (mm)				Dimensions (in)				Body Material	Weight	
			MPa	psig	°C	°F	L	H_1	H_2	W	L	H_1	H_2	W		kg	lb
G20N	Screwed Rc, NPT	½¨	2,1	305	220	428	120	24	105	82	4.7	1.0	4.1	3.2	Ductile Cast Iron FCD450	2,5	5.5
		¾¨							105				4.1			2,5	5.5
		1¨							107				4.2			2,6	5.7
G20NF	Flanged JIS, ASME	½¨					150	24	105	82	5.9	1.0	4.1	3.2		3,7*	8.1*
		¾¨					150				5.9					4,2*	9.2*
		1¨					160				6.3					4,8*	10.6*
	Flanged DIN	DN15					150				5.9					3,7	8.1
		DN20					150				5.9					4,2	9.2
		DN25					160				6.3					4,8	10.6
GC20	Screwed Rc, NPT	½¨	2,1	305	220	428	120	21	113	86	4.7	0.8	4.4	3.4	Stainless Steel SCS13A	2,4	5.3
		¾¨														2,4	5.3
		1¨														2,5	5.5
GC20F	Flanged JIS, ASME	½¨					175	21	113	86	6.9	0.8	4.4	3.4		3,9*	8.6*
		¾¨					195				7.7					5,0*	11.0*
		1¨					215				8.5					5,8*	12.8*
	Flanged DIN	DN15					150	21	113	86	5.9	0.8	4.4	3.4		3,4	7.5
		DN20					150				5.9					3,9	8.6
		DN25					160				6.3					4,6	10.1

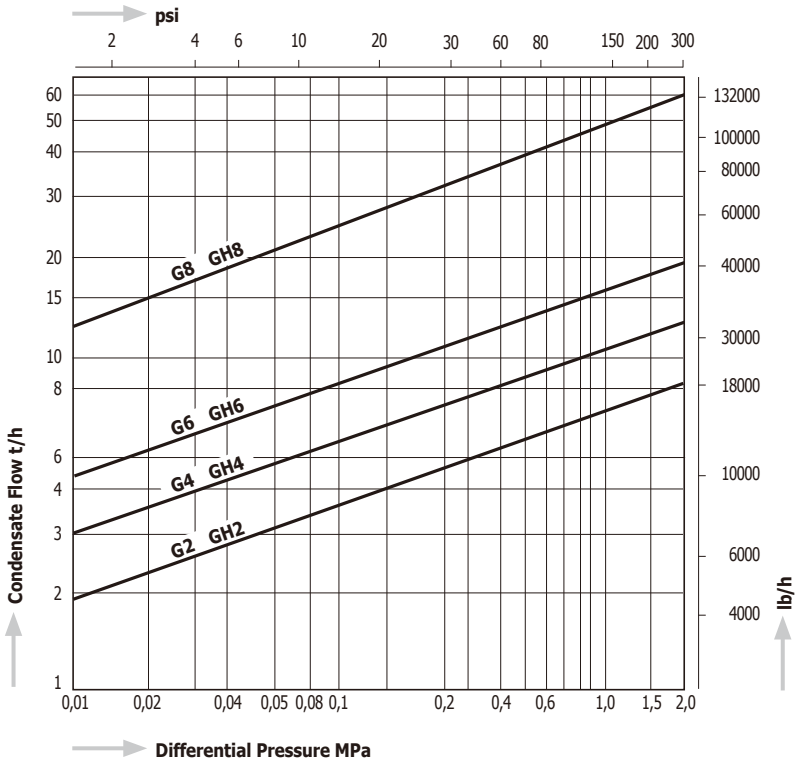
***Depending on the flange rating the weight may differ.**

G2, G4, G6, G8
GH2, GH4, GH6, GH8



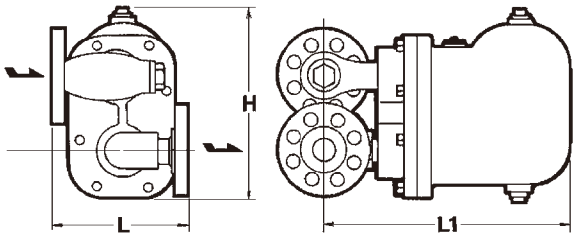


Capacity Chart

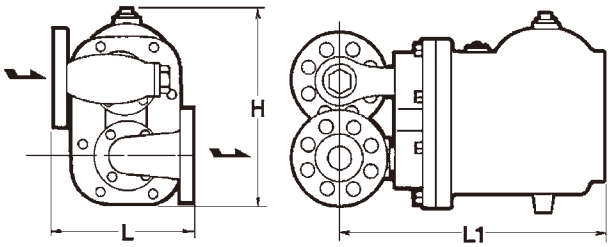


Dimensions

G2 / GH2

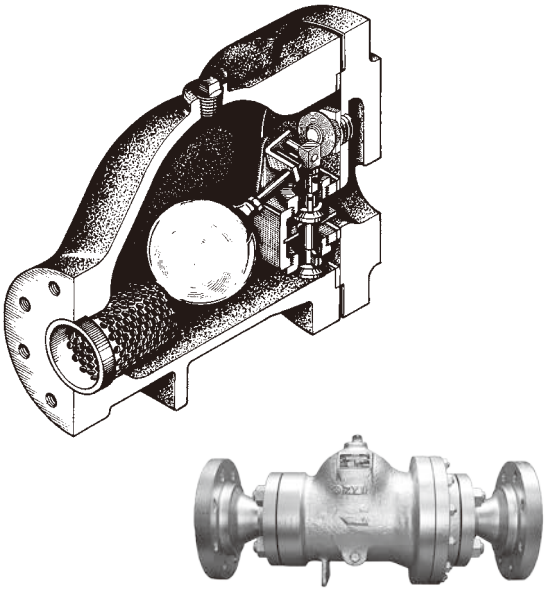


G4, G6, G8 / GH4, GH6, GH8

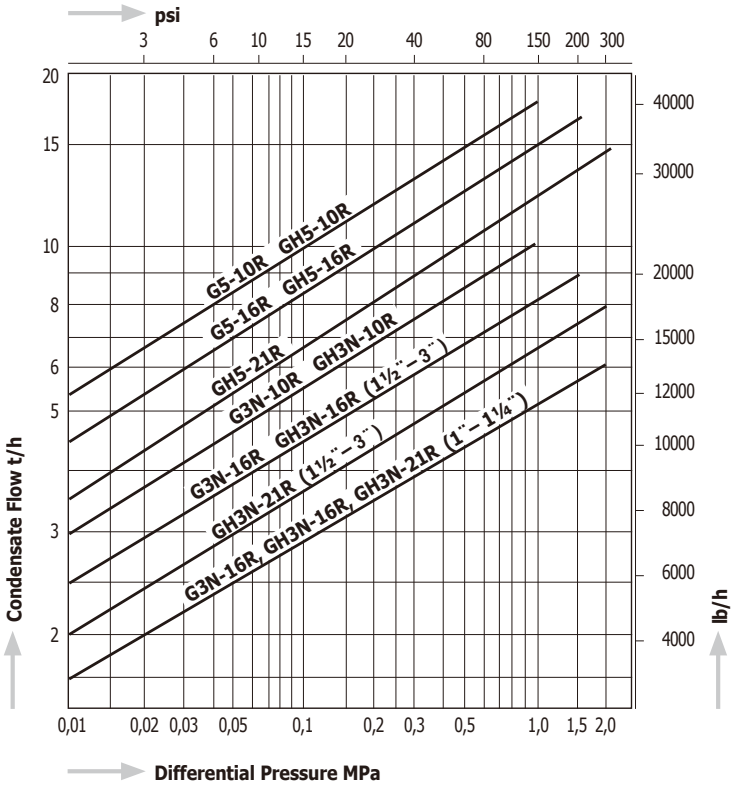


Model	Connections	Size	Max. Operating Pressure		Max. Operating Temperature		Dimensions (mm)			Dimensions (in)			Body Material	Weight	
			MPa	psig	°C	°F	L	L_1	H	L	L_1	H		kg	lb
G2	Flanged JIS, ASME, DIN	1¨	1,6	230	220	428	175	310	250	6.9	12.2	9.8	Cast Iron FC250	21	46.2
		1¼¨					180			7.1					
		1½¨, 2¨					190			7.5					
G4		1¼¨ – 2¨					200	380	320	7.9	14.9	12.6		38	83.6
G6		1½¨ – 3¨					270	410	350	10.6	16.1	13.8		62	136.4
G8		3¨, 4¨					350	570	480	13.8	22.4	19.9		147	323.4
GH2	Flanged JIS, ASME, DIN	1¨ – 1½¨	2,0	290	400	752	200	310	235	7.9	12.2	9.1	Cast Steel SCPH2	24	52.8
		2¨					210			8.3					
GH4		1¼¨ – 2¨					200	380	320	7.9	14.9	12.6		43	94.6
GH6		1½¨ – 3¨					270	415	345	10.6	16.3	13.6		68	149.6
GH8		3¨, 4¨					350	590	470	13.8	23.2	18.5		162	356.4

G3N, G5
GH3N, GH5



Capacity Chart



Dimensions G3N-R, G5-R, GH3N-R, GH5-R

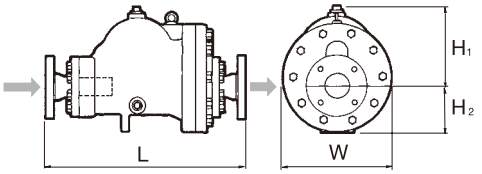


Table 1: Dimensions (ASME and DIN)

Model	Size	Flange Standards		L (mm)	L (in)
G3N-R	1" – 1½"	ASME 150 lb / 300 lb RF	DIN PN16 (DN25 / DN32 / DN40)	437	17.2
	2"		DIN PN16 (DN50)	467	18.4
	2½", 3"		DIN PN16 (DN65 / DN80)	497	19.6
GH3N-R	1", 1¼"	ASME 150 lb / 300 lb RF	DIN PN40 (DN25 / DN32)	457	18.0
	1½"		DIN PN40 (DN40)	477	18.8
	2"		DIN PN40 (DN50)	487	19.2
	2½", 3"		DIN PN40 (DN65 / DN80)	517	20.4

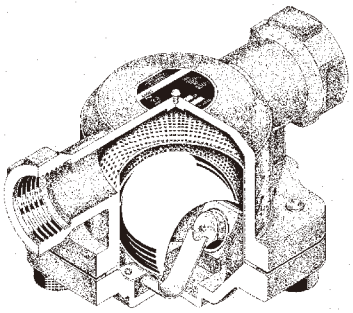
Model	Size	Flange Standards		L (mm)	L (in)
G5-R	2"	ASME 150 lb / 300 lb RF	DIN PN16 (DN50)	540	21.3
	2½", 3"		DIN PN16 (DN65 / DN80)	570	22.4
	4"		DIN PN16 (DN100)	600	23.6
GH5-R	2"	ASME 150 lb / 300 lb RF	DIN PN40 (DN50)	550	21.7
	2½", 3"		DIN PN40 (DN65 / DN80)	580	22.8
	4"		DIN PN40 (DN100)	620	24.4

Model		Connections	Size	Max. Operating Pressure		Max. Operating Temperature		Dimensions (mm)				Dimensions (in)			Body Material	Weight	
				MPa	psig	°C	°F	L	H_1	H_2	W	H_1	H_2	W		kg	lb
G3N -	10R	Flanged JIS, ASME, DIN	1½" – 3"	1,0	145	235	455	Table 1 (*1)	140	95	198	5.5	3.7	7.8	Ductile Cast Iron FCD 450	28 – 31 (*2)	62 – 68 (*2)
	16R		1" – 3"	1,6	230												
G5 -	10R		2" – 4"	1,0	145				205	110	270	8.1	4.3	10.6		52 – 69 (*2)	114 – 152 (*2)
	16R		2" – 4"	1,6	230												
GH3N -	10R		1½" – 3"	1,0	145	400	752		139	106	212	5.5	4.2	8.3	Cast Steel SCPH2	38 – 50 (*2)	84 – 110 (*2)
	16R		1" – 3"	1,6	230												
	21R		1" – 3"	2,1	305												
GH5 -	10R		2" – 4"	1,0	145				200	115	270	7.9	4.5	10.6		63 – 80 (*2)	139 – 176 (*2)
	16R		2" – 4"	1,6	230												
	21R		2" – 4"	2,1	305												

(*1) Please look at our technical drawings for JIS dimensions.
(*2) Depending on size and flange standard the weight of the traps differs. Please, look at our technical drawings.

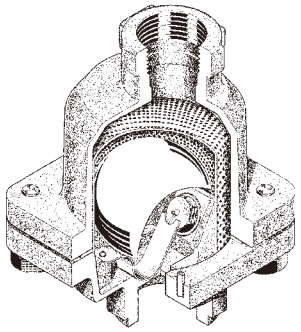
Stainless Steel as body material for GH3N and GH5 is available as special design. For more details, please contact MIYAWAKI Inc. or an authorized representative.

GC1



Horizontal installation

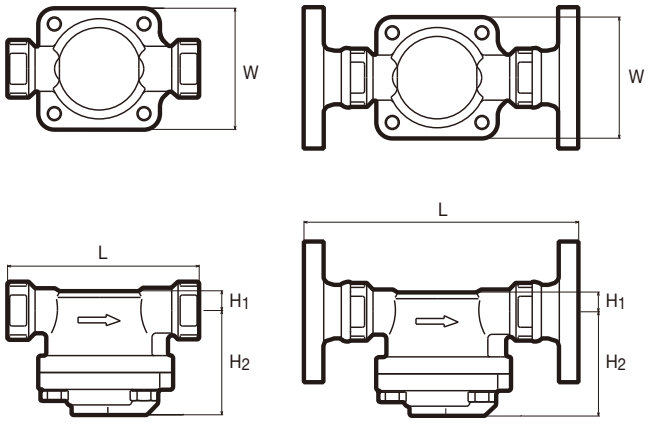
GC1V



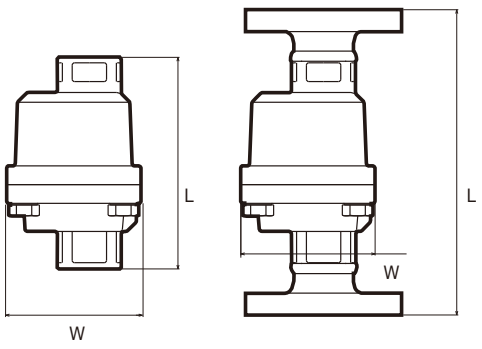
Vertical installation

Dimensions

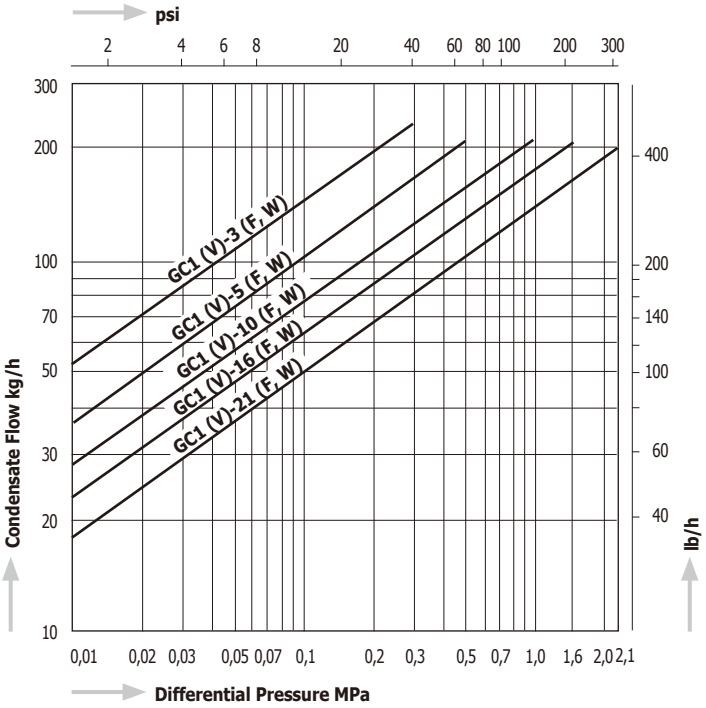
GC1



GC1V



Capacity Chart GC1 / GC1V

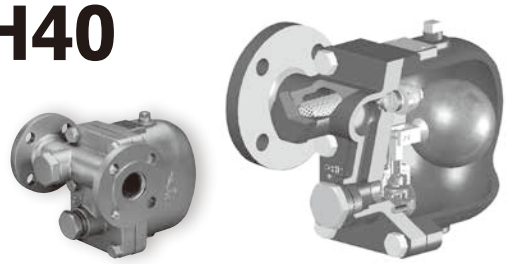


Available pressure ranges GC1/GC1V

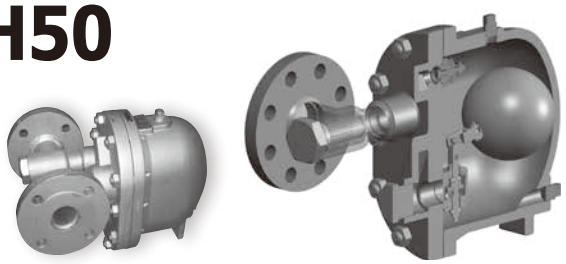
Model	Max. Operating Pressure	
	MPa	psig
GC1 / GC1V - 21	2,1	305
GC1 / GC1V - 16	1,6	230
GC1 / GC1V - 10	1,0	145
GC1 / GC1V - 5	0,5	72.5
GC1 / GC1V - 3	0,3	43.5

Model	Connections	Size	Max. Operating Pressure		Max. Operating Temperature		Dimensions (mm)				Dimensions (in)				Body Material	Weight	
			MPa	psig	°C	°F	L	H_1	H_2	W	L	H_1	H_2	W		kg	lb
GC1 (GC1V)	Screwed Rc, NPT	½¨	2,1	305	350	662	127	15	75	86	5.0	0.6	3.0	3.4	Stainless Steel SCS13A	1,8	4.0
		¾¨					136				5.4					1,9	4.2
		1¨					140				5.5					2,0	4.4
GC1-W (GC1V-W)	Socket Weld JIS, ASME, DIN	½¨	2,1	305	350	662	127	15	75	86	5.0	0.6	3.0	3.4		1,8	4.0
		¾¨					136				5.4					1,9	4.2
		1¨					140				5.5					2,0	4.4
GC1-F (GC1V-F)	Flanged JIS, ASME, DIN	½¨	2,1	305	350	662	175	15	75	86	6.9	0.6	3.0	3.4		3,3	7.3
		¾¨					195				7.7					4,5	9.9
		1¨					215				8.5					5,3	11.7

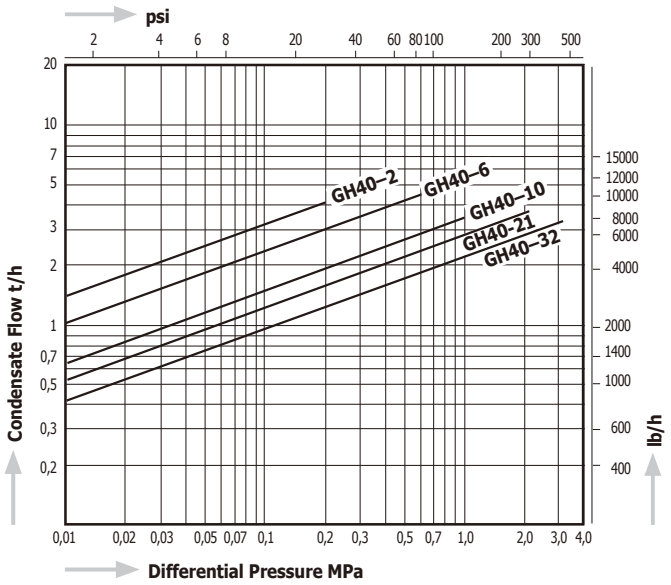
GH40



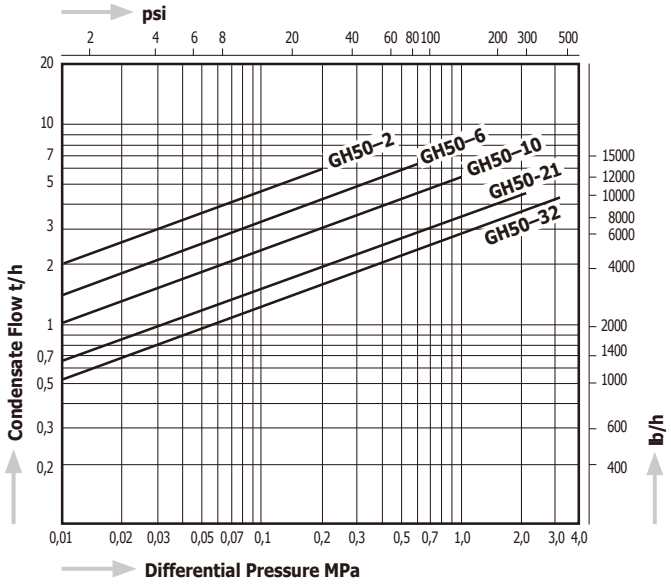
GH50



Capacity Chart **GH40**

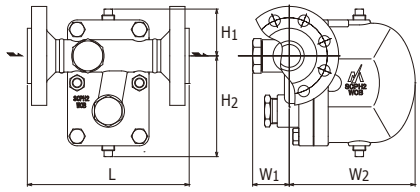


Capacity Chart **GH50**

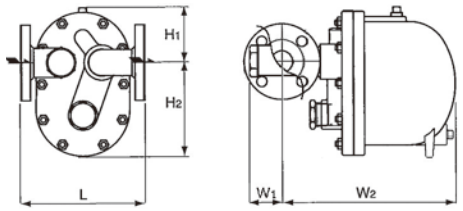


Dimensions

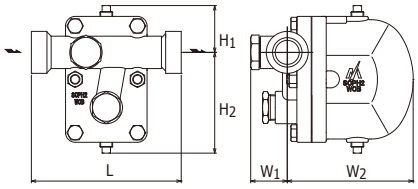
GH40-F



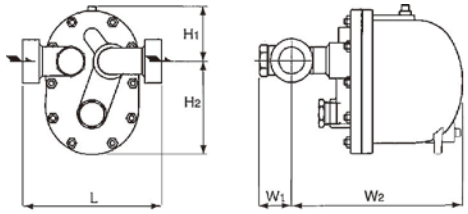
GH50-F



GH40-W



GH50-W



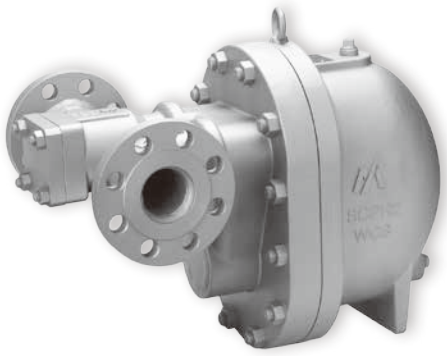
Model	Connections	Size	Max. Operating Pressure		Max. Operating Temperature, TMO		Dimensions (mm)					Dimensions (in)					Body Material	Weight	
			MPa	psig	°C	°F	L	H_1	H_2	W_1	W_2	L	H_1	H_2	W_1	W_2		kg	lb
GH40 - F	Flanged JIS, ASME, DIN	1½¨, 2¨	3,2	464	400	752	230	80	170	60	210	9.1	3.15	6.7	2.4	8.3	Cast Steel SCPH2	24	53
GH40 - W	Socket Weld JIS, ASME, DIN	1½¨					250	80	170	60	210	9.8	3.15	6.7	2.4	8.3		19	41.9
		2¨					260					10.2							
GH50 - F	Flanged JIS, ASME, DIN	1½¨, 2¨					230	107	173	60	330	9.1	4.2	6.8	2.4	13.0		37	81.4
GH50 - W	Socket Weld JIS, ASME, DIN	1½¨					250	107	173	60	330	9.8	4.2	6.8	2.4	13.0		32	70.4
		2¨					260					10.2							

Available pressure ranges	Max. Operating Pressure (PMO)									
	MPa	psig	MPa	psig	MPa	psig	MPa	psig	MPa	psig
	0,2	29	0,6	87	1,0	145	2,1	305	3,2	464
Models	GH40-2F, GH40-2W GH50-2F, GH50-2W		GH40-6F, GH40-6W GH50-6F, GH50-6W		GH40-10F, GH40-10W GH50-10F, GH50-10W		GH40-21F, GH40-21W GH50-21F, GH50-21W		GH40-32F, GH40-32W GH50-32F, GH50-32W	

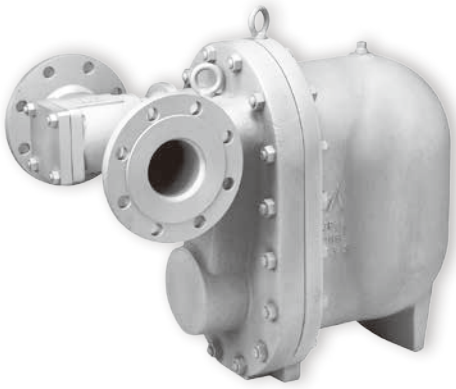
Depending on the flange standard the dimensions and the weight may differ.

Stainless Steel as body material is available as special design. For more details, please contact MIYAWAKI Inc. or an authorized representative.

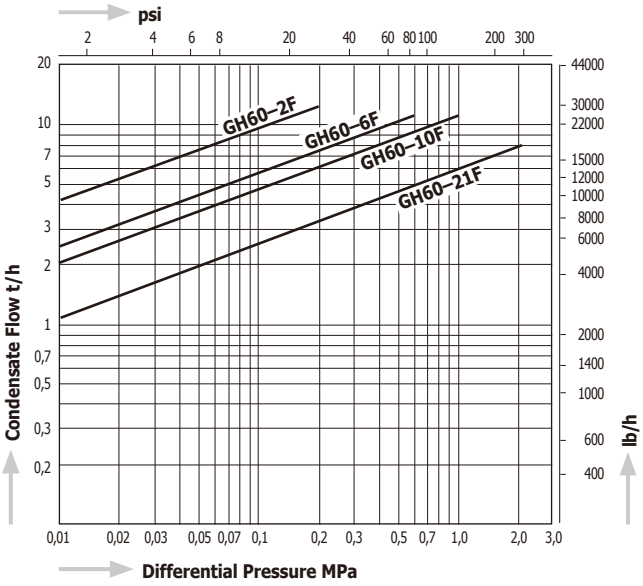
GH60



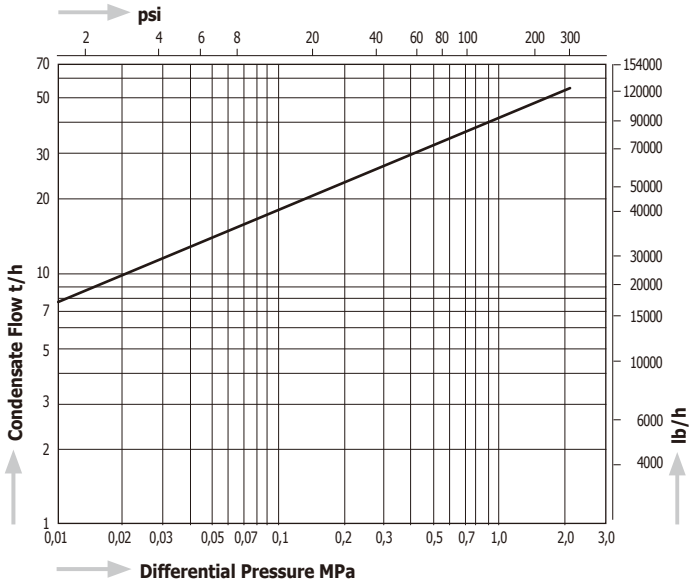
GH70



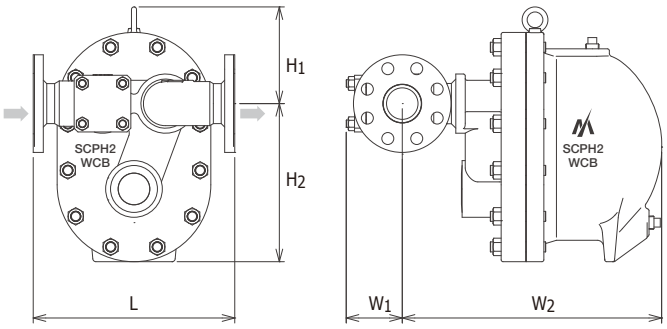
Capacity Chart **GH60**



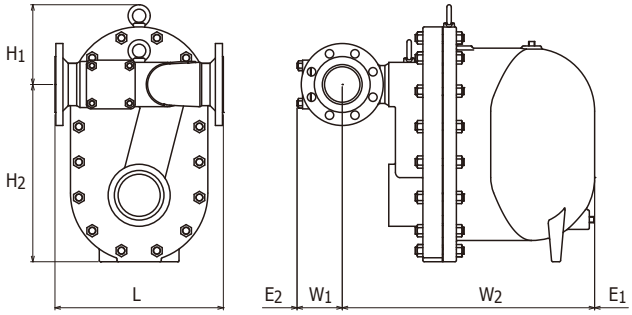
Capacity Chart **GH70**



Dimensions **GH60**



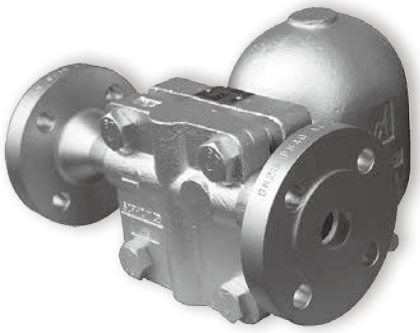
Dimensions **GH70**



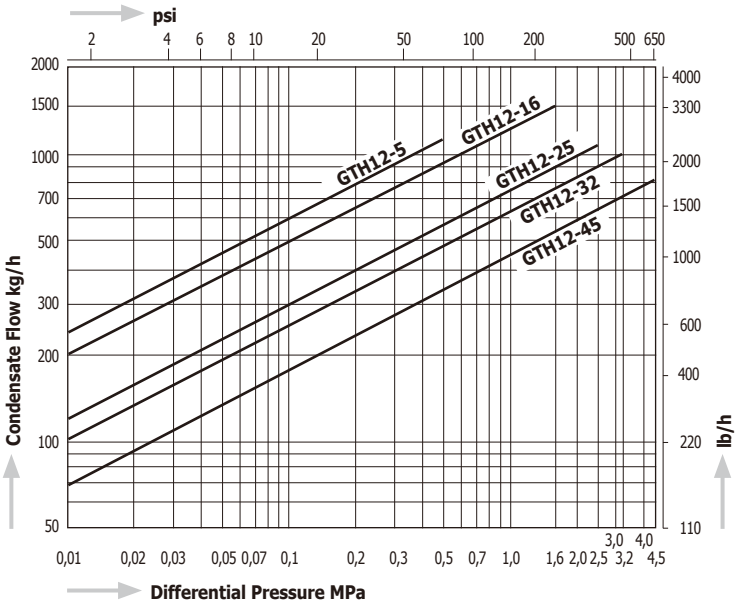
Model	Connect.	Size	Max. Operating Pressure		Max. Differential Pressure, PMX		Max. Operating Temperature, TMO		Dimensions (mm)							Dimensions (in)					Body Material	Weight	
			MPa	psig	MPa	psig	°C	°F	L	H_1	H_2	W_1	W_2	E_1	E_2	L	H_1	H_2	W_1	W_2		kg	lb
GH60 -2F	Flanged JIS, ASME, DIN	2¨– 2½¨	0,2	29	0,2	29	400	752	320	155	250	90	410			12.6	6.1	9.8	3.5	16.1	Cast Steel SCPH2	75	165
GH60 -6F			0,6	87	0,6	87																	
GH60 -10F			1,0	145	1,0	145																	
GH60 -21F			2,1	305	2,1	305																	
GH70 -21F	Flanged JIS, ASME, DIN	3¨	2,1	305	2,1	305	400	752	380	180	400	105	570	330	120	15.0	7.1	15.7	4.1	22.4	Cast Steel SCPH2	160	352
		4¨																				164	352

Stainless Steel as body material is available as special design. For more details, please contact MIYAWAKI Inc. or an authorized representative.

GTH12

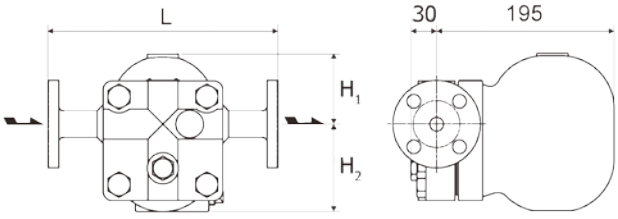


Capacity Chart GTH12

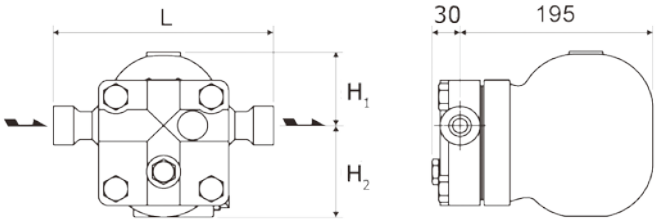


Dimensions

GTH12-F Flanged



GTH12 Screwed
GTH12-W Socket Weld

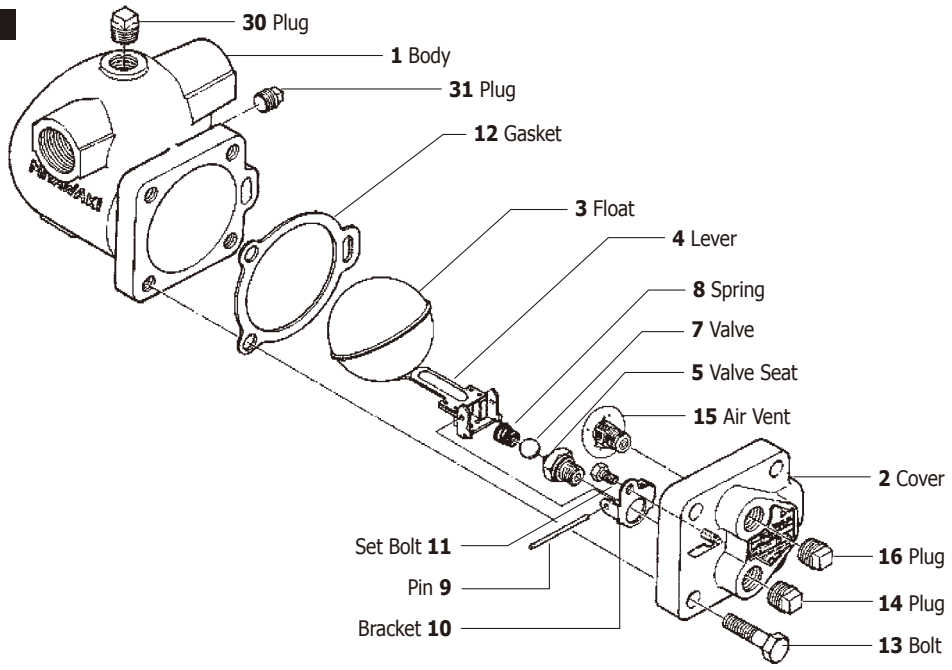


Model	Connections	Size	Max. Operating Pressure		Max. Differential Pressure, PMX		Max. Operating Temperature, TMO		Dimensions (mm)			Dimensions (in)			Body Material	Weight	
			MPa	psig	MPa	psig	°C	°F	L	H_1	H_2	L	H_1	H_2		kg	lb
GTH12- 5	Screwed Rc, NPT	½¨ – 1¨	3,2 *	464 *	0,5	73	400 *	752 *	220	75	95	8.7	3.0	3.7	Cast Steel SCPH2	~ 11,7	~ 25.8
GTH12- 16					1,6	230											
GTH12- 25					2,5	363											
GTH12- 32					3,2	464											
GTH12- 45			5,0	725	4,5	652	425	800									
GTH12- 5F	Flanged JIS, ASME, DIN	½¨ – 1¨	3,2 *	464 *	0,5	73	400 *	752 *	250	75	95	9.8	3.0	3.7		~ 15,2	~ 33.5
GTH12- 16F					1,6	230											
GTH12- 25F					2,5	360											
GTH12- 32F					3,2	464											
GTH12- 45F			5,0	725	4,5	652	425	800									
GTH12- 5W	Socket Weld JIS, ASME, DIN	½¨ – 1¨	3,2 *	464 *	0,5	73	400 *	752 *	220	75	95	8.7	3.0	3.7		~ 11,7	~ 25.8
GTH12- 16W					1,6	230											
GTH12- 25W					2,5	360											
GTH12- 32W					3,2	464											
GTH12- 45W			5,0	725	4,5	652	425	800									

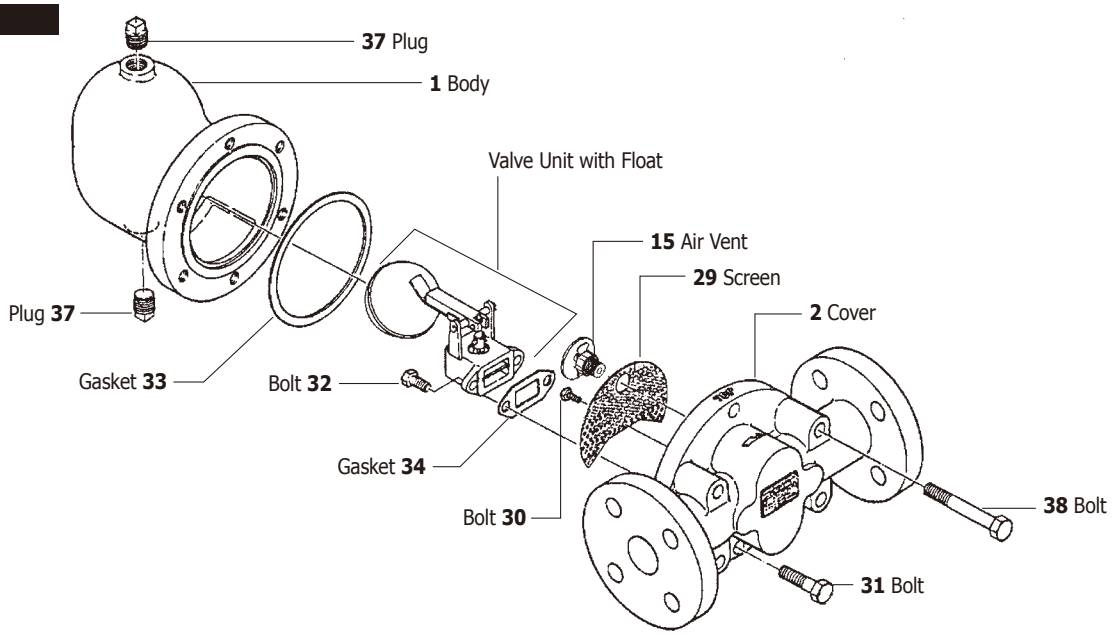
***PMO 5,0 MPa and TMO 425 °C is available as special design.**
A vertical version and Stainless Steel as body material are available as special design.
For more details, please contact MIYAWAKI Inc. or an authorized representative.

SERIES G Spare Parts

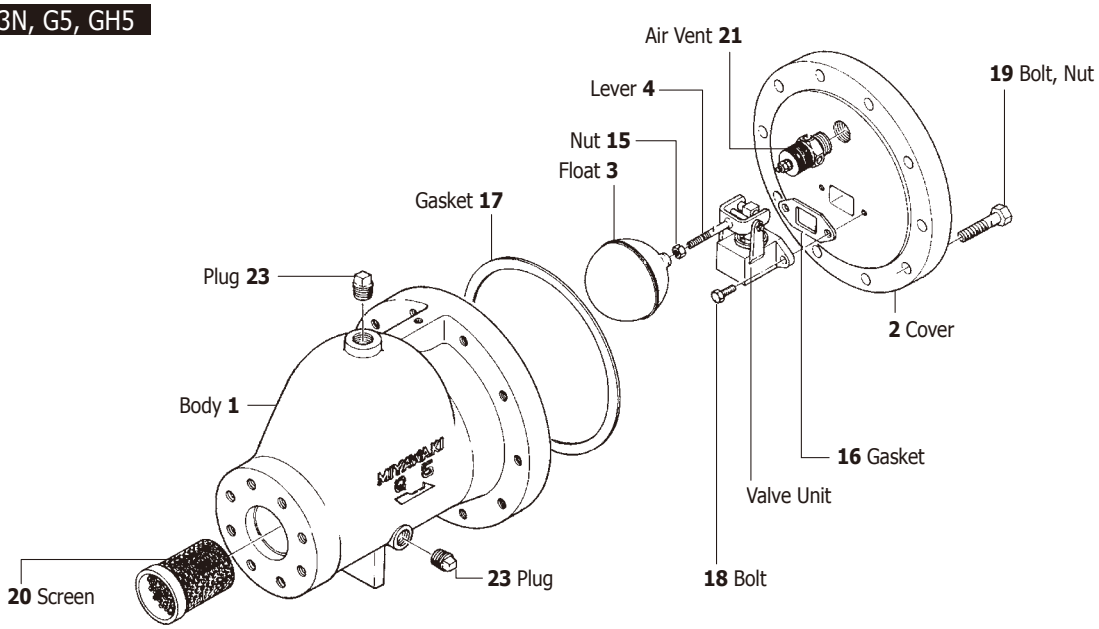
G11N/G12N



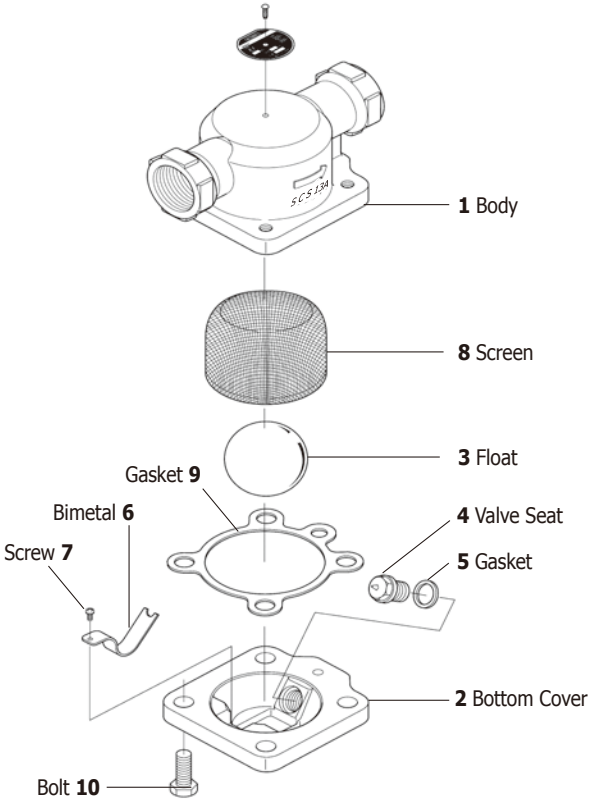
G15N



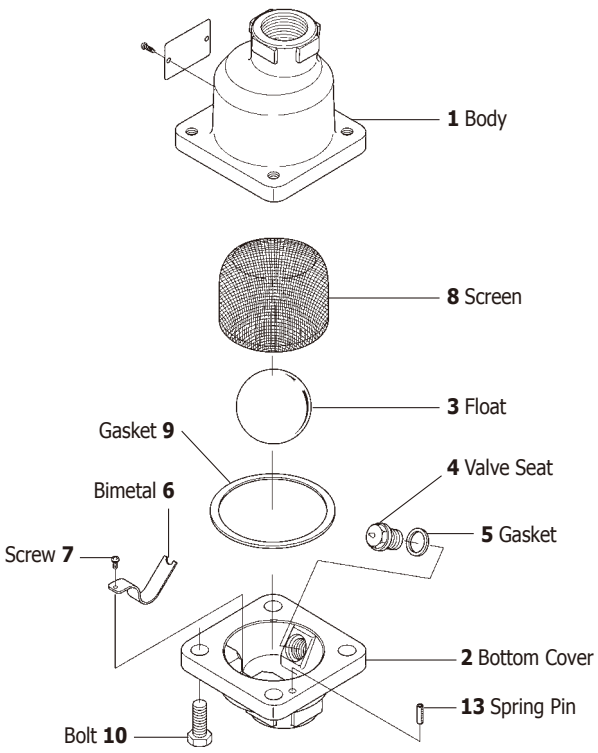
G3N, GH3N, G5, GH5



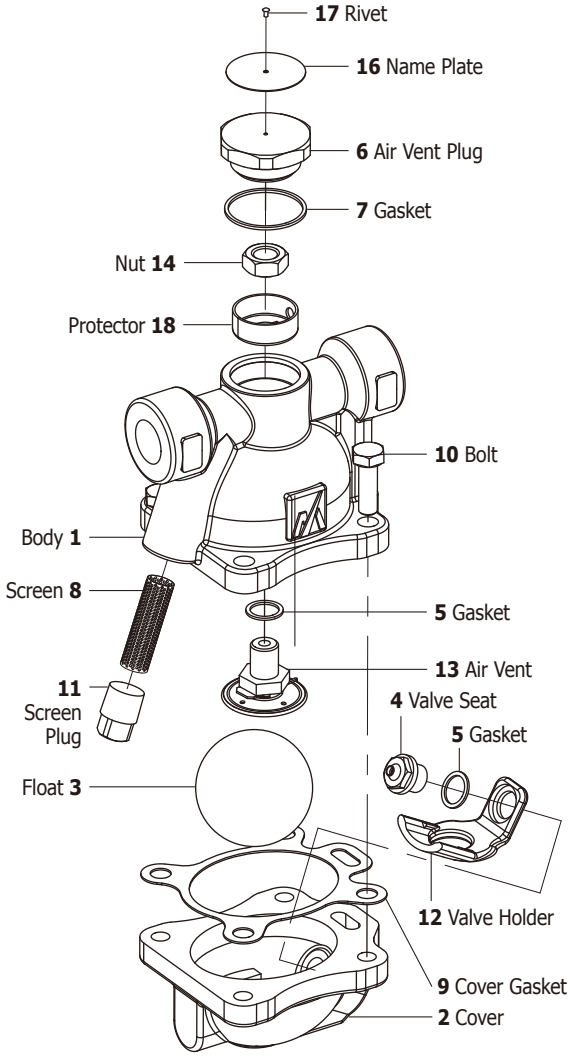
GC1



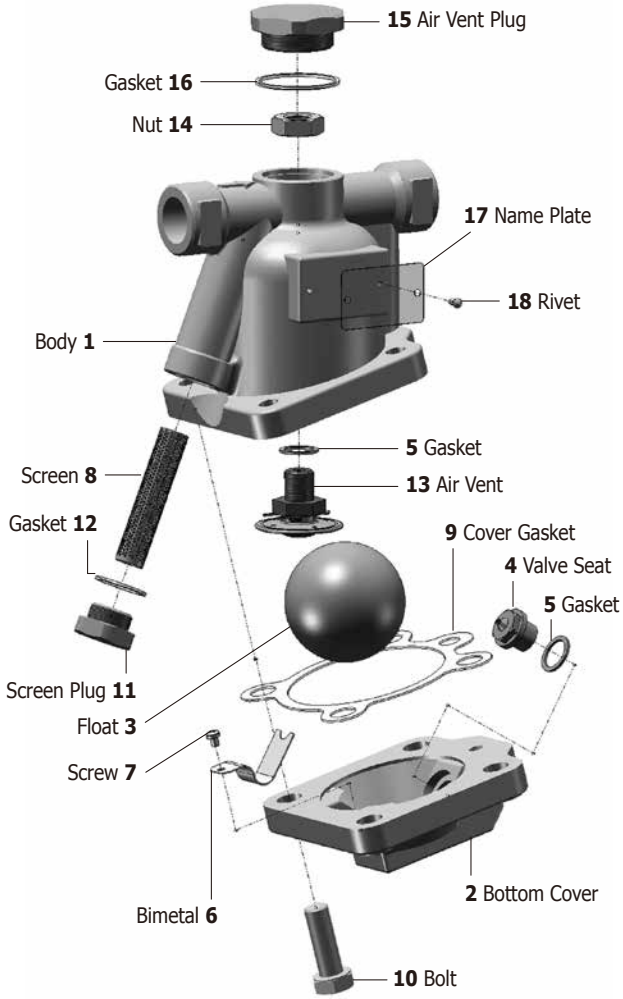
GC1V



G20N



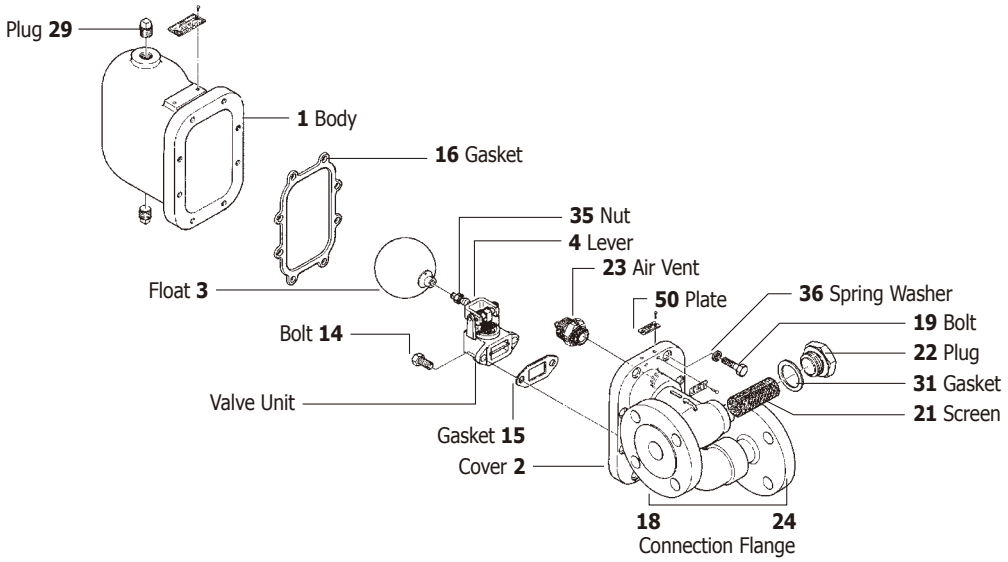
GC20



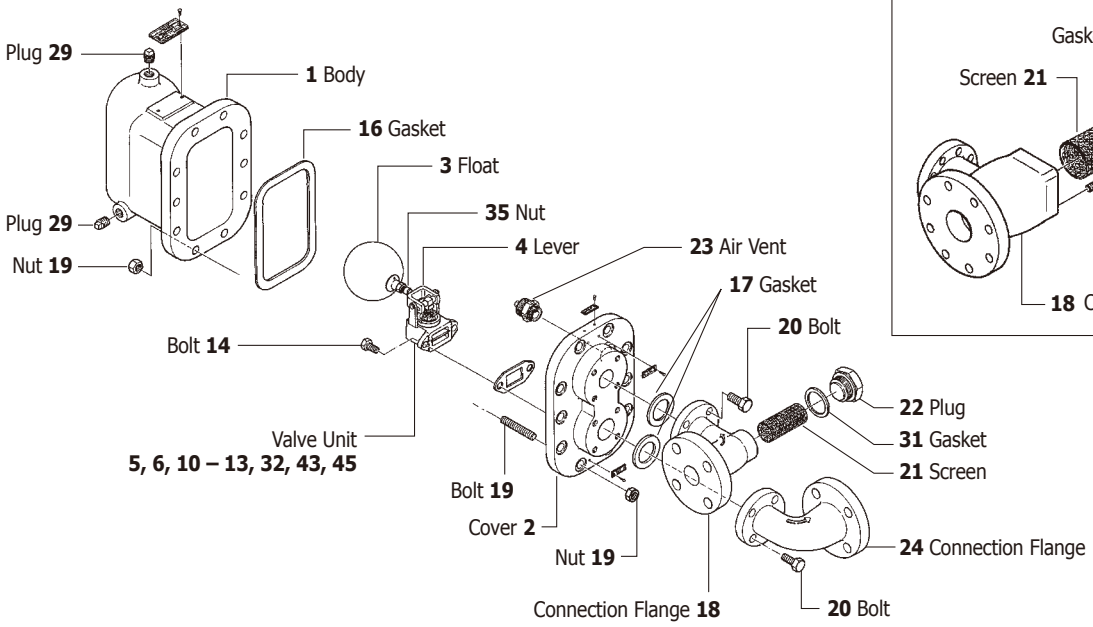
SERIES G Spare Parts

GH2

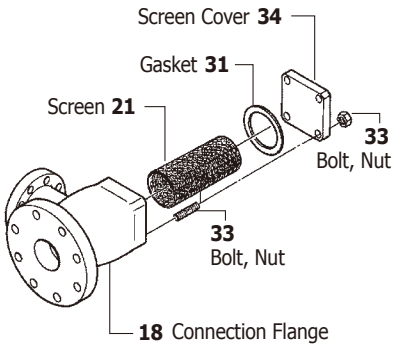
Valve Unit
- **5** Valve Seat
- **6** Valve
- **7** Holder
- **8** Lever Nut
- **9** Nut
- **10** Connector
- **11** Nut
- **12** Guide Wing
- **13** Pin
- **32** Baffle Plate
- **39** Pin
- **43** Shaft
- **44** Collar
- **45** Split Pin
- **47** Spring Pin



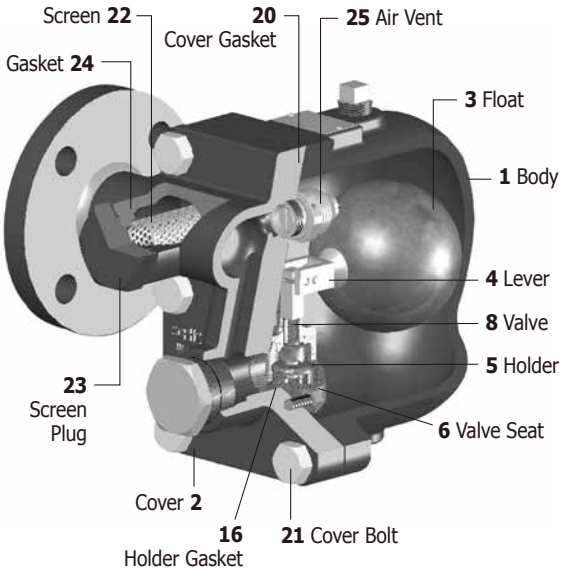
GH4, GH6, GH8



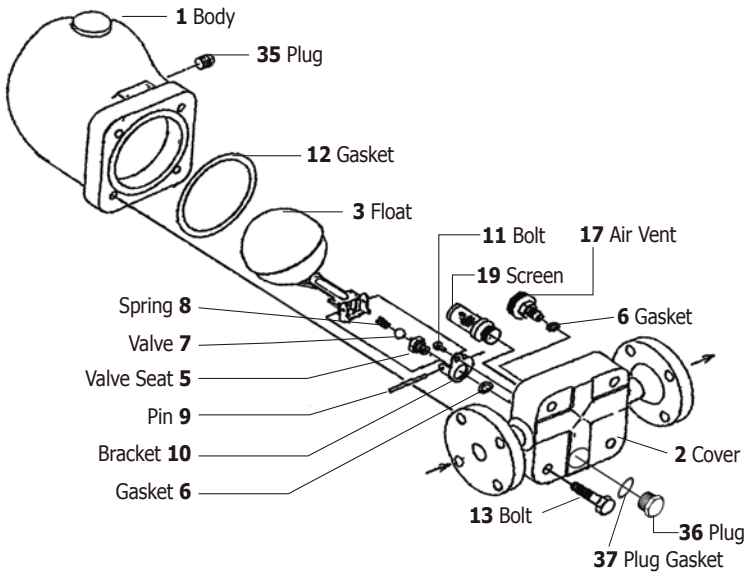
GH8 only



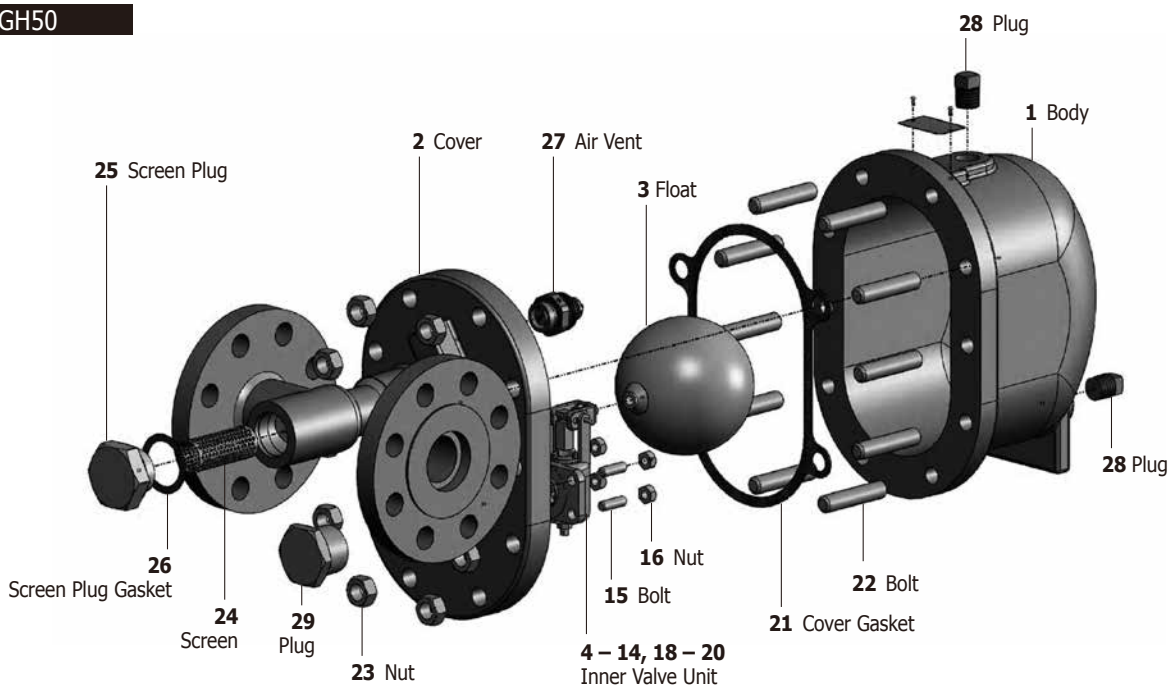
GH40



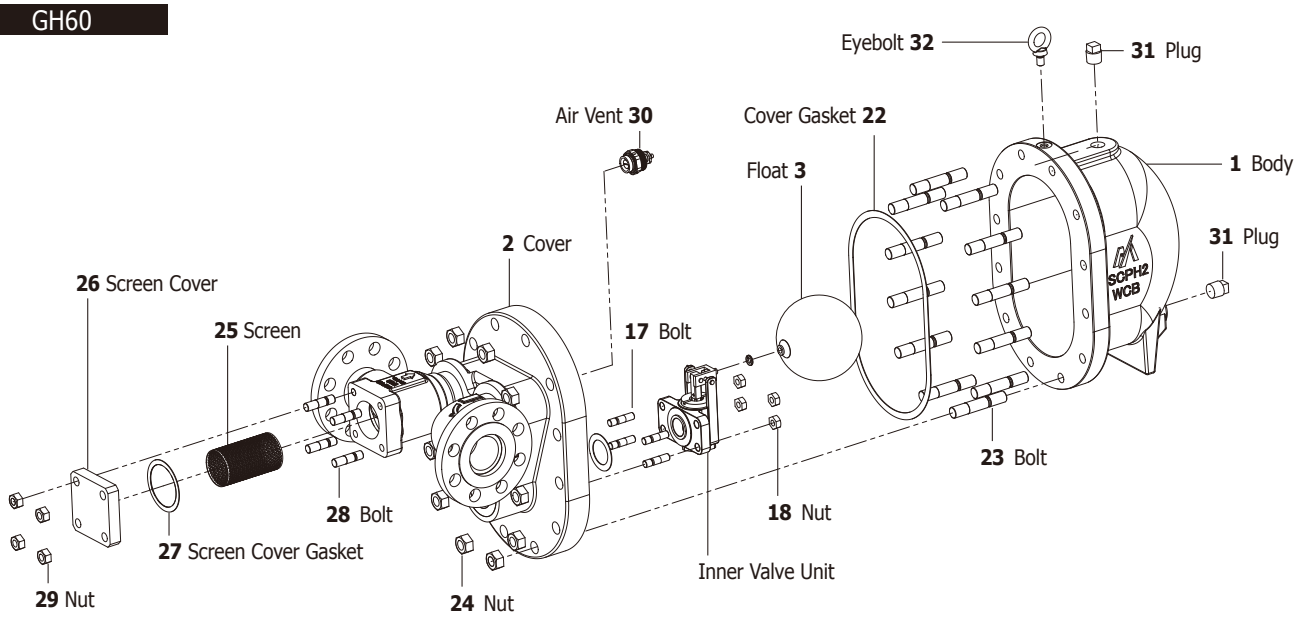
GTH12



GH50



GH60



GH70