Kohrs Lonnemann Heil Engineers, Inc.

Fort Thomas Office
1538 Alexandria Pike, Suite 11
Ft. Thomas, KY 41075
859-442-8050 telephone
859-442-8058 fax

Product Data

Project Name:	Sharonville Convention Center Expansion	**Submittal Code:**	233600.00-PD-00	**REV:** 00
Document Set:	Bid/Construction			
KLH Project #:	21108.00-Bid	**Received Date:**	02/25/2022	
Section Name:	Air Terminal Units			
Section Number:	233600.00			
Submitted By:	CT Consultants, Inc.			
Authored By:	Driekast Piping Corp			
Client Name:	CT Consultants, Inc.			

SUBMITTAL REVIEW

[X] **No Exceptions**

By: Daniel R. Sharp **Date:** 03/14/2022

ENGINEER'S REVIEW IS FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. COMMENTS DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR REMAINS RESPONSIBLE FOR ACCURACY OF QUANTITIES, DIMENSIONS, DETAILS AND COORDINATION WITH OTHER TRADES.

Hydronic Coil Kits

1.1 No exceptions taken.

End of Submittal Review

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-Megen
11130 Ashburn Road
Cincinnati, OH 45240
Phone 513.742.9191
Fax 513.742.9393

SUBMITTAL COVERSHEET

Submittal Number	233600-01	Revision Number	00
Submittal Title	233600-PD-00 VAV Coil Kits		
Specification Section	233600	**Date Submitted**	2/25/2022
Drawing/Detail #		**Response Required By**	3/11/2022
Project Number	C475	**Project Name**	Sharonville CC Expansion

Company: **Manufacturer** **Supplier** **Installer**

Spec Section	Description	Action Required
		Approval

	Submitted By:	Submitted To:
Company:	Megen Construction	CT Consultants
Name:	Ian Getz	Brian Sabla
Email:	**igetz@megenconstruction.com**	Bsabla@ctconsultants.com

DESIGN TEAM REVIEW:

MEGEN CONSTRUCTION REVIEW

The undersigned hereby certifies our review of the referenced submittal to be in compliance with the Contract Documents. Correctness of details, measurements, quantities, conformity with documents, techniques of construction and contract coordination with other trades shall remain the complete responsibility of the Subcontractor.

COMMENTS:

Ian Getz
SKANSKA MEGEN

2/25/2022
Date

DRIEKAST PIPING CORP

11290 SEBRING DRIVE CINCINNATI, OHIO 45240

PH. (513) 674-9110 FAX (513) 674-9113

SUBMITTAL

Project Name: Sharonville Convention Center Expansion		
Project Address: 11355 Chester Road	City, State: Cincinnati	Zip Code: 45246

General Contractor: Megan Construction			
Project Manager: Wes Dorger		Prepared By: Wes Dorger	
HVAC ☐	Plumbing ☐	Submittal #:	Date:1/10/2022
Specification #: 23		Description: Coil Kits	

Reviewed ☐

Reviewed as Noted ☐

Revise & Resubmit ☐

SUBMITTAL

SHARONVILLE CONVENTION CENTER

COIL KITS

PREPARED FOR:

DRIEKAST PIPING CORP.

FERGUSON®

oventrop

“Hydrocontrol R” Bronze Manual Balancing Valve

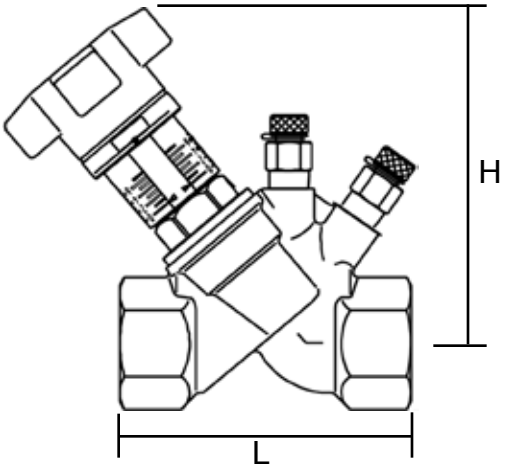
½” - 2”

Job Name: Submitted by: Date:

Spec Section:

Job Location: Engineer/Architect:

Approval: Date:

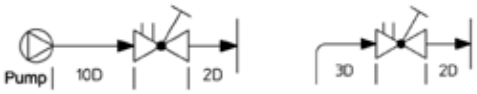


Coil Kit Dimensions in Inches

Dimension	½”	¾”	1”	1¼”	1½”	2”
L (F-NPT)	3.15	3.31	3.84	4.33	4.72	5.91
L (sweat)	3.51	3.81	4.31	5.03	5.57	6.60
H	4.49	4.57	4.69	5.35	5.43	5.83

Installation Notes

When installing the hydrocontrols, it is to be observed that the direction of flow conforms with the arrow on the valve body and that the valve is installed with a minimum of 3 D (3 x nominal pipe diameter) of straight pipe at the valve inlet and of 2 D (2 x nominal pipe diameter) of straight pipe at the valve outlet.



Hydrocontrol valves can be installed in any orientation (e.g. vertical or horizontal). It is recomended to take caution if installing the valve with the test ports pointing down, as this could lead to clogging of the test ports.

Specification

Oventrop double regulating and commissioning valves “Hydrocontrol R” are installed in the pipework of central hot water heating and cooling systems and serve to achieve a hydronic balance between the various circuits of the system.

The balance is achieved by a presetting with memory position. The calculated flow rate or pressure loss for each individual pipe can be preset centrally and regulated precisely. The required values of presetting can be obtained from the flow charts. All intermediate values are infinitely adjustable. The selected presetting can be read off two scales. The Oventrop double regulating and commissioning valves have two threaded ports which are equipped with the pressure test points for measuring the differential pressure.

Maximum working temperature: 300°F
Maximum working pressure (F-NPT): 362 psi
Maximum working pressure (sweat): 235 psi

Using balancing valve for isolation:

The hand wheel can be limited to any setting. This can be done by inserting a 3 mm allen key into the hole on the top of the handle and turning clockwise until it stops. Once this has been done, the valve can be closed down for isolation of the coil without losing the balanced setting. When the valve is reopened, the handle will be turned until it reaches the preset limit.

“Hydrocontrol R” Manual Balancing Valve		
Size	**Recommended Flow range [GPM]**	**Connection ends**
½”	0.4 - 4.2	FNPT x FNPT Sweat x Sweat
¾”	0.6 - 6.2	
1”	1.2 - 9.6	
1¼”	1.6 - 21	
1½”	3.2 - 30	
2”	3.9 - 42	

Size	½”	¾”	1”	1¼”	1½”	2”
Item Number (F-NPT)	1061004	1061006	1061008	1061010	1061012	1061016
Item Number (sweat)	1060551	1060552	1060553	1060554	1060555	1060556

Oventrop Corporation
PO Box 789
East Granby, CT 06026
Phone (860) 413-9173
www.oventrop-us.com

"Hydrocontrol R"
Sweat or Thread Connection
½" to 2" Valves

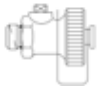
Cv Values for Various Handwheel Settings

Presetting or Handwheel Turns	½"	¾"	1"	1¼"	1½"	2"
0.5	0.40	0.58	1.08	1.20	3.09	3.13
1.0	0.53	0.84	1.77	2.40	4.80	5.88
1.5	0.66	1.08	2.42	3.37	6.67	8.31
2.0	0.84	1.33	3.00	4.67	8.53	10.66
2.5	1.14	1.57	3.59	5.91	10.12	13.55
3.0	1.56	1.86	4.29	6.98	11.65	16.55
3.5	1.98	2.37	5.14	7.97	13.02	19.01
4.0	2.38	3.00	6.00	8.88	14.37	21.51
4.5	2.77	3.63	6.92	10.06	16.05	24.07
5.0	3.14	4.24	7.81	11.27	17.74	26.66
5.5	3.56	4.97	8.51	12.44	20.17	28.49
6.0	3.95	5.69	9.20	13.60	22.62	30.04
6.5	4.33	6.33	9.78	14.88	24.36	32.27
7.0	4.51	6.64	10.34	16.17	26.10	34.20
7.5	-	-	-	17.47	27.47	36.16
8.0	-	-	-	18.73	28.86	38.06
8.5	-	-	-	19.97	29.59	40.35
9.0	-	-	-	21.14	30.34	42.65
9.5	-	-	-	22.01	31.16	44.13
10.0	-	-	-	22.62	31.99	45.09

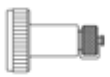
"Hydrocontrol" Valve Accessories

Set of 2 pressure test points
Item 106 02 81

Extension piece for pressure test points
80mm Item 106 02 95

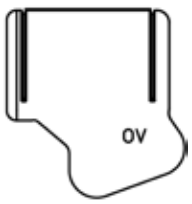


Fill and drain ball valve $^{1}/_{4}$"
Item 106 01 91



Measuring adapter
for fill and drain ball valve
Item 106 02 98

Flow meter
OV-DMC 2
Item 106 91 77



Insulation shell
for "Hydrocontrol R"

Size		Item no.
DN15	½"	106 00 81
DN20	¾"	106 00 82
DN25	1"	106 00 83
DN32	1¼"	106 00 84
DN40	1½"	106 00 85
DN50	2"	106 00 86

Oventrop Corporation
PO Box 789
East Granby, CT 06026
Phone: (860) 413-9173
www.oventrop-us.com

Figure 410A

BRASS BODY BALL VALVES

FNW™

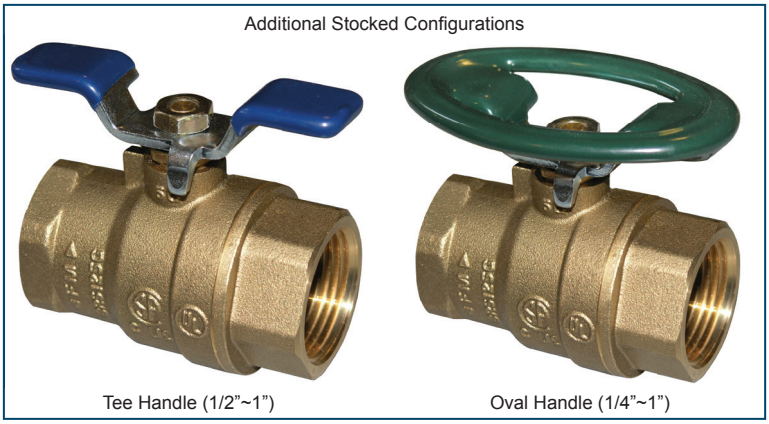
2 PC FULL PORT* 600 WOG

Features:

- Threaded Connection
- 600 WOG
- 150 WSP
- Full Port *
- PTFE Seats
- Meets MSS SP-110 Standards
- UL Approved (Up to 2”)
- FM & CSA Approved (1/2” to 2” only)
- Blow-out Proof Stem
- Adjustable Packing
- Stocked Configurations:
  - Standard Lever (1/4” to 4”)
  - Oval Handle (1/4” to 1”)
  - Tee Handle (1/2” to 1”)
- Optional Lock Lever Kit
- Optional Stem Extension Kit
- Optional Tee Handle Kit
- Optional Oval Handle Kit
- Optional Memory Stop Kit

* 4” Valve is Standard Port

NOT FOR USE AT OR BELOW GROUND LEVEL



WARNING:

- This product contains lead or lead compounds known to the State of California to cause cancer and birth defects and other reproductive harm. Do not use in connection with drinking water. Wash hands after handling.

Figure Number Matrix

FNW 410A Handle Size

HANDLE CODE	SIZE CODE	
Standard Handle = Blank	1/4 = B	1-1/2 = J
Oval Handle (1/4”~1”) = O	3/8 = C	2 = K
Tee Handle (1/2”~1”) = T	1/2 = D	2-1/2 = L
	3/4 = F	3 = M
	1 = G	4 = P
	1-1/4 = H	

FM APPROVED 1/2” ~ 2”

CSA C US 1/2” ~ 2”

UL 1/4” ~ 2”

Kit Codes (Order Separately)

FNW 410A Kit Size

KIT TYPE	SIZE CODE
Replacement Handle = BRYLWH	1/4” ~ 1/2” = BD
Locking Lever = LHK	3/4” ~ 1” = FG
Stem Extension = SE	1-1/4” ~ 1-1/2” = HJ
Tee Handle* = THK	* 2” ~ 4” = KP
Oval Handle* = OHK	
Memory Stop = MSK	

*** NOTE: Due to the higher torque requirements of larger valves, use of Tee and Oval handles on valves larger than 1-1/2” can be difficult to operate.**

Gas Approvals

- CSA Class 3371-08, ANSI Z21.15/CSA9.1, 1/2 PSIG, -40°F - 125°F
- CSA Class 3371-10, CGA 3.16, 125 PSIG, -40°F - 149°F
- CSA Class 3371-12, CGA CR91-002, 5 PSIG, -40°F - 125°F
- CSA Class 3371-88, ANSI Z21.15/CSA9.1, 1/2 PSIG, -40°F - 125°F
- CSA Class 3371-92, ASME B16.44, 5 PSIG, -40°F - 125°F
- CSA Class 3371-94, ASME B16.33, 125 PSIG, -20°F - 150°F
- UL Class YRBX, ANSI/UL-842, 600 PSIG, -20°F - 125°F
- UL Class YSDT, ANSI/UL-125, 250 PSIG, -40°F - 130°F

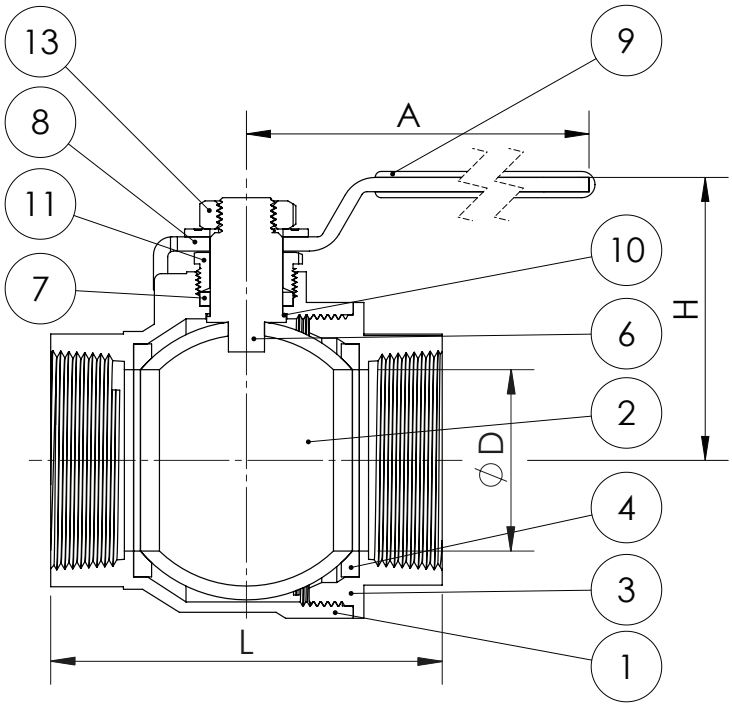
www.fnw.com

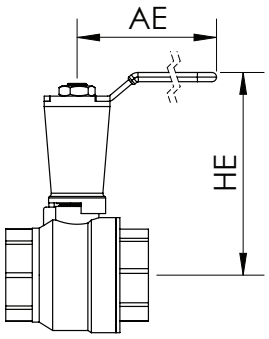
FNW™

Figure 410A

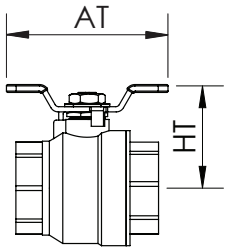
BRASS BODY BALL VALVES

2 PC FULL PORT* 600 WOG

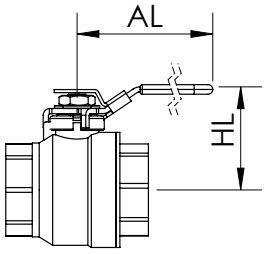




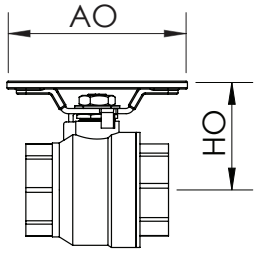
STEM EXTENSION KIT



TEE HANDLE KIT



LOCKING LEVER KIT



OVAL HANDLE KIT

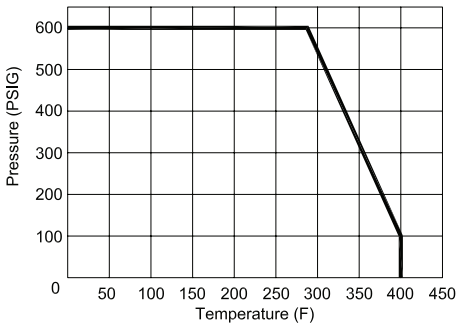
Dimensions (inches) & Weights

SIZE	ØD	A	L	H	Wt. (Lbs)
1/4	0.35	3.10	1.69	1.35	0.28
3/8	0.39	3.10	1.80	1.40	0.30
1/2	0.50	3.10	2.12	1.50	0.40
3/4	0.75	4.32	2.45	1.85	0.74
1	0.98	4.32	2.98	2.01	1.03
1-1/4	1.26	5.11	3.35	2.32	1.61
1-1/2	1.50	5.11	3.60	2.55	2.11
2	1.97	7.80	4.23	3.07	3.83
2-1/2	2.48	7.80	5.15	3.48	6.48
3	2.95	7.80	5.91	3.89	9.18
4	2.95	7.80	6.26	3.92	11.65

SIZE	AL	HL	AO	HO	AT	HT	AE	HE
1/4	3.06	1.65	2.80	1.44	2.70	1.34	2.95	4.27
3/8	3.06	1.72	2.80	1.46	2.70	1.36	2.95	4.30
1/2	3.06	1.72	2.80	1.52	2.70	1.43	2.95	4.35
3/4	4.32	2.17	3.60	1.91	3.40	1.78	3.95	4.80
1	4.32	2.37	3.60	2.06	3.40	1.93	3.95	4.93
1-1/4	5.09	2.81	4.39	2.32	4.03	2.18	4.92	5.28
1-1/2	5.09	2.98	4.39	2.54	4.03	2.40	4.92	5.45
2	7.75	3.67	5.38	3.14	4.85	3.08	8.00	6.02
2-1/2	7.75	4.13	5.38	3.55	4.85	3.46	8.00	6.41
3	7.75	4.58	5.38	3.91	4.85	3.82	8.00	6.81
4	7.75	4.62	5.38	3.91	4.85	3.90	8.00	6.97

Standard Materials

Ref. No.	Description	Material	Qty	Remarks
1	Body	ASTM B124-C37700 Brass	1	1/4" to 1-1/2"
		ASTM B584-C85700 Brass		2" to 4"
2	Ball	ASTM B16-C36000 Brass (Chrome Plated)	1	1/4" to 3/4" (Solid)
		ASTM B124-C37700 Brass (Chrome Plated)		1" to 4" (Shell)
3	End Cap	ASTM B124-C37700 Brass	1	
4	Seat	PTFE	2	
6	Stem	ASTM B16-C36000	1	
7	Stem Packing	PTFE	1	
8	Handle	ASTM A283-D Steel	1	Zinc Plated
9	Handle Sleeve	Vinyl	1	
10	Thrust Washer	PTFE	1	2" to 4"
11	Packing Gland	ASTM B16-C36000	1	
13	Handle Nut	AISI-1010 Steel	1	Zinc Plated

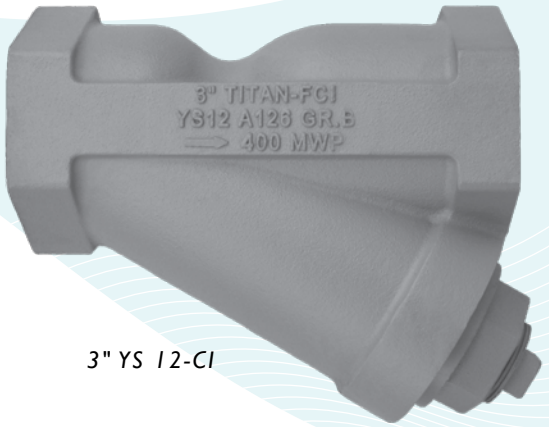


DOC: FNW410A11 Ver. 3/2016

TITAN FLOW CONTROL, INC.

"Y" (WYE) STRAINER ❖ ANSI CLASS 250

CAST IRON ❖ THREADED ENDS



3" YS 12-CI

MODEL: YS 12-CI

(CAST IRON)

FEATURES

SIZE RANGE : 1/4" ~ 3"

◇ **LARGE STRAINING CAPACITY**
WITH ITS LARGE BODY AND SIZABLE STRAINING ELEMENT, THE YS12 PROVIDES EXCELLENT OPEN AREA RATIOS THAT ARE TYPICALLY TWO-AND-A-HALF TIMES LARGER THAN THE CORRESPONDING PIPELINE.

◇ **PRECISION MACHINED SEATS**
PRECISION MACHINED SCREEN SEATS IN BOTH THE BODY AND CAP HELP TO ENSURE ACCURATE POSITIONING OF THE SCREEN DURING REASSEMBLY AFTER CLEANING. ALSO, THE MACHINED BODY SEATS ENABLE FINER FILTRATION BY PREVENTING DEBRIS BYPASS.

◇ **SELF-CLEANING CAPABILITY**
WITH A TAPPED NPT BLOW-OFF CONNECTION, THIS UNIT CAN BE FITTED WITH A BLOW-DOWN VALVE WHICH FACILITATES CLEANING OF THE STRAINING ELEMENT. PLEASE CONTACT FACTORY FOR MORE INFORMATION.

◇ **EPOXY PAINTED**
ALL UNITS ARE EPOXY PAINTED TO HELP RESIST RUST AND CORROSION. TITAN FCI ALSO OFFERS EPOXY COATING AS AN OPTION FOR THE YS12.

◇ **THREADED CAP**
TITAN'S YS12 HAS STRAIGHT THREADS TO PERMIT EASY CAP REMOVAL FOR CLEANING AND PROPER ALIGNMENT WHEN REASSEMBLING STRAINER.

◇ **TYPE I MILITARY SPECIFICATION**
WHEN FURNISHED WITH A BRONZE BLOW OFF PLUG, THE YS12 MEETS MILITARY SPECIFICATION WW-S-2739 FOR SIZES 3/8" THROUGH 3". PLEASE SPECIFY IF NECESSARY.

TECHNICAL

PRESSURE/ TEMPERATURE RATING CI- ASTM A126 GR. B - CLASS 250 **YS 12-CI (THREADED)**	
WOG (Non-shock):	400 PSI @ 150 °F
Saturated Steam:	250 PSI @ 406 °F
Maximum Liquid:	250 PSI @ 406 °F

- *The above listed temperatures are theoretical and may vary during actual operating conditions.*

APPLICATIONS

GENERAL APPLICATION: Y-STRAINERS ARE INSTALLED IN A PIPING SYSTEM TO REMOVE UNWANTED DEBRIS FROM THE PIPELINE, PROTECTING EXPENSIVE EQUIPMENT DOWNSTREAM SUCH AS PUMPS, METERS, SPRAY NOZZLES, COMPRESSORS, AND TURBINES. THEY CAN BE PLACED IN A HORIZONTAL OR VERTICAL PIPELINE AS LONG AS THE SCREEN IS IN A DOWNWARD POSITION. STRAINING IS ACCOMPLISHED VIA AN INTERNAL PERFORATED OR MESH LINED STRAINING ELEMENT, THE SIZE OF WHICH SHOULD BE DETERMINED BASED ON THE SIZE OF THE SMALLEST PARTICLE TO BE REMOVED.

SERVICING: THE STRAINING ELEMENT NEEDS REGULAR CLEANING TO PREVENT DEBRIS BUILD UP. IT IS NOT ADVISABLE TO ALLOW THE DIFFERENTIAL PRESSURE TO INCREASE BY 20 PSI. ALTHOUGH CLEANING NORMALLY REQUIRES THE REMOVAL OF THE STRAINING ELEMENT, INSTALLING AND USING A TITAN BLOW-OFF DRAIN VALVE CAN INCREASE THE TIME BETWEEN CLEANINGS.

The above data represents common market and service applications. No representation or guarantee, expressed or implied, is given due to the numerous variations of concentrations, temperatures and flow conditions that may occur during actual service.

TITAN FLOW CONTROL, INC.
YOUR PIPELINE TO THE FUTURE!
Tel: 910-735-0000 ◇ Fax: 910-738-3848 ◇ titan@titanfci.com ◇ www.titanfci.com
290 Corporate Drive ◇ PO Box 7408 ◇ Lumberton, NC 28358

TITAN FLOW CONTROL, Inc.
290 Corporate Drive
Lumberton, NC 28358
Tel: 910.735.0000
E-mail: titan@titanfci.com
Web: www.titanfci.com
Fax: 910.738.3848

"Y" (WYE) STRAINER

YS 12-CI - (Cast Iron)

Threaded Ends • Cast Iron • ANSI Class 250

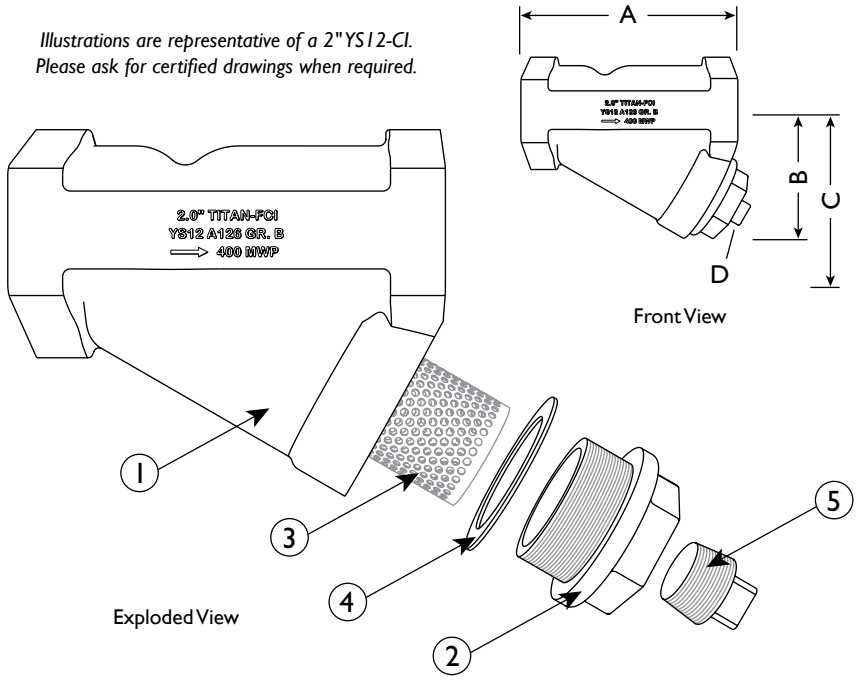
ANSI Class 250

BILL OF MATERIALS (1)

No.	PART	YS 12-CI
1	Body (2)	Cast Iron A126 Gr. B
2	Cap	Cast Iron A126 Gr. B
3	Straining Element (3)	Stainless Steel (5)
4	Gasket (3)	Grafoil
5	NPT Plug (Blow-off) (4)	Steel

1. Bill of Materials represents standard materials. Equivalent or better materials may be substituted at the manufacturer's discretion.
2. All units are epoxy painted.
3. Denotes recommended spare parts.
4. The YS12 can be furnished with bronze blow-off plug to meet Military Specification WW-S-2739. Contact factory.
5. Stainless Steel Straining Element is available in Type 304 and Type 316 Stainless Steel. A wide range of wire mesh and perforated screens are available. See "Standard Screen Selections" chart below for standard perforations and meshes. Please specify if a non-standard screen is required.

Illustrations are representative of a 2" YS12-CI. Please ask for certified drawings when required.

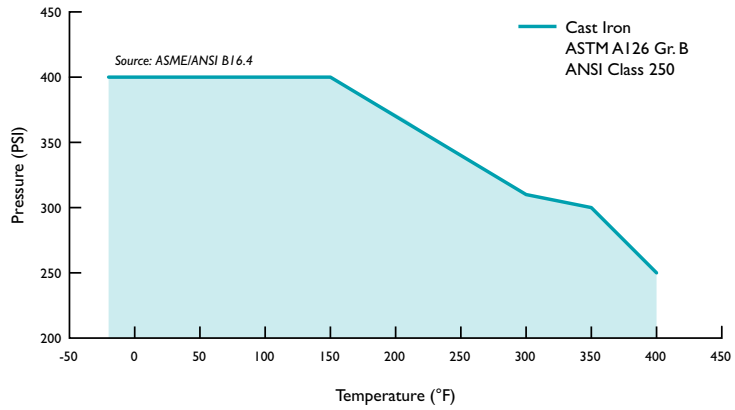


DIMENSIONS AND PERFORMANCE DATA (1)

SIZE		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	8	10	15	20	25	32	40	50	65	80
A DIMENSION FACE TO FACE (2)	in	3.188	3.188	3.188	3.75	4.0	5.0	5.75	7.0	9.25	10.0
	mm	81	81	81	95	102	127	146	178	235	254
B DIMENSION CENTER LINE TO BOTTOM	in	2.063	2.063	2.063	2.438	2.625	3.375	3.875	4.75	5.875	6.0
	mm	52	52	52	62	67	86	98	121	149	152
C DIMENSION SCREEN REMOVAL	in	2.375	2.375	2.375	3.0	3.25	4.25	5.0	6.125	7.875	8.0
	mm	60	60	60	76	83	108	127	156	200	203
D NPT Plug BLOW-OFF	in	1/4	1/4	1/4	3/8	3/8	3/4	3/4	1	1 1/2	1 1/2
	mm	8	8	8	10	10	20	20	25	40	40
APPROXIMATE ASSEMBLED WEIGHT	lb	1.5	1.5	1.5	2.5	3.5	6.0	9.0	14.0	25.5	32.0
	kg	0.7	0.7	0.7	1.1	1.6	2.7	4.1	6.3	11.6	14.5
Flow Coefficient	C_V	0.7	2	8	15	22	38	42	70	110	160

1. Dimensions and weights are for reference only. When required, request certified drawings.
2. Face to face values have a tolerance of ±0.06 in (±2.0 mm).

PRESSURE - TEMPERATURE RATINGS



PRESSURE - TEMPERATURE RATING

ANSI Class 250	A126 Gr. B
WOG (Non-shock):	400 PSI @ 150 °F
Saturated Steam:	250 PSI @ 406°F
Max Liquid:	250 PSI @ 406 °F

STANDARD SCREEN SELECTIONS

Size	Liquid	Open Area	Steam	Open Area
1/4" ~ 2"	20 Mesh	51.8%	30 Mesh	44.8%
2 1/2" ~ 3"	1/16 (.0625)	41%	3/64 (.045)	36%

REFERENCED STANDARDS & CODES

CODE	DESCRIPTION
ASME/ANSI B16.4	Cast Iron Threaded Fittings

PRESSURE/TEMPERATURE TEST PLUG

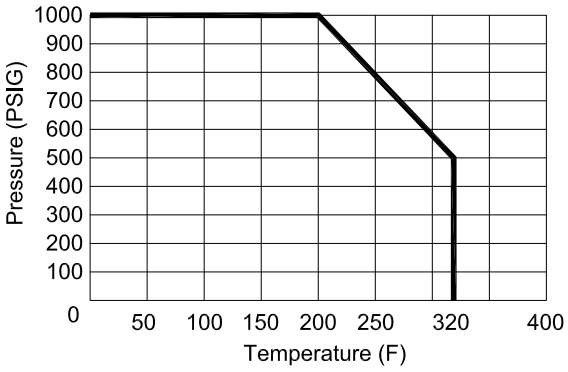
The figure PTT brass pressure/temperature test plugs facilitate quick pressure and temperature readings at recommended test points without disturbing the process. They are widely used in the HVAC industry.

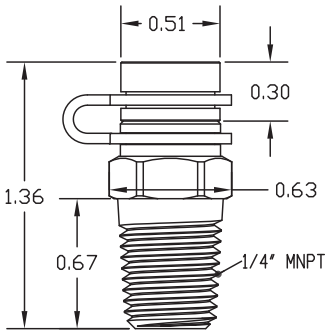
Features:

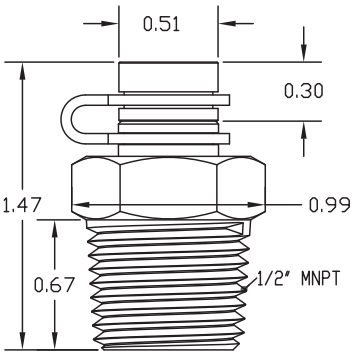
- 1,000 PSI Maximum Operating Pressure
- 1/4" or 1/2" MNPT End Process Connection
- Brass Body
- EPDM Diaphragm/Core
- Plastic Cap Retainer
- 320°F (160°C) Process Temperature Limit

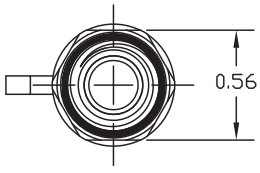
Part Numbers

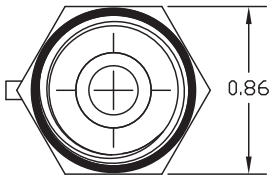
Size	Part Number
1/4"	FNWPTTB
1/2"	FNWPTTD











DOC: FNWPTT09 Ver. 10/2013