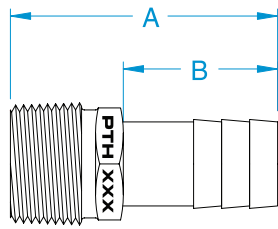


Pipe-to-Hose Adaptors	PTH, PTHC, FF, FFC, PTH-S, PTHC-S
Thru-Hull Connections	TH, THXL, HSTH, STH, FTH, HTH-S, HTHCL-S
Tail Pieces	TP, TPC
Raw Water Manifold	RWM
Drain Manifold	DM
Thru-Hull Drain	TD, TD-S
Thru-Hull Installation Tool	THT-530



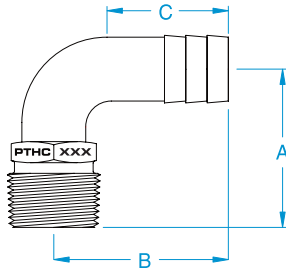
STAINLESS STEEL AND BRONZE THRU-HULL FITTINGS

PTH, STRAIGHT STANDARD FLOW



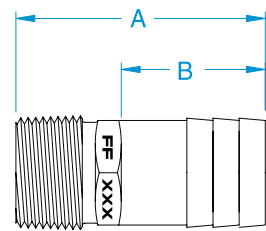
MODEL NO.	NPT PIPE	HOSE ID	DIMENSIONS IN INCHES		WEIGHT (LBS.)	PKG
			A	B		
PTH-500	1/2"	1/2"	2.39	1.38	.17	10
PTH-5062	1/2"	1/2" or 5/8"	2.70	1.80	.18	10
PTH-750	3/4"	3/4"	2.39	1.38	.20	10
PTH-1000	1"	1"	2.48	1.38	.26	10
PTH-1125	1-1/4"	1-1/8"	2.48	1.38	.58	10
PTH-1250	1-1/4"	1-1/4"	2.65	1.55	.60	10
PTH-1500	1-1/2"	1-1/2"	3.00	1.90	.75	10
PTH-2000	2"	2"	3.00	1.90	1.05	10
PTH-2500	2-1/2"	2-1/2"	4.00	2.00	1.75	1
PTH-3000	3"	3"	4.00	2.00	2.58	1
PTH-4000	4"	4"	4.25	2.00	3.50	1
PTH-5000	5"	5"	4.25	2.00	5.10	1

PTHC, 90° STANDARD FLOW



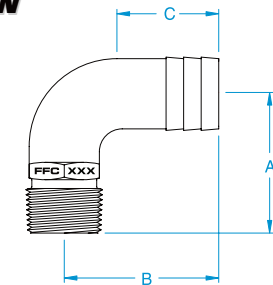
MODEL NO.	NPT PIPE	HOSE ID	DIMENSIONS IN INCHES			WEIGHT (LBS.)	PKG
			A	B	C		
PTHC-5062	1/2"	1/2" or 5/8"	1.90	2.00	1.56	.22	10
PTHC-750	3/4"	3/4"	1.86	2.05	1.43	.29	10
PTHC-1000	1"	1"	2.34	2.40	1.63	.54	10
PTHC-1125	1-1/4"	1-1/8"	2.37	2.44	1.75	.78	5
PTHC-1250	1-1/4"	1-1/4"	2.44	2.53	1.38	.80	5
PTHC-1500	1-1/2"	1-1/2"	2.50	2.50	2.25	1.12	5
PTHC-2000	2"	2"	2.88	3.10	2.25	1.58	5
PTHC-2500	2-1/2"	2-1/2"	3.83	3.35	2.10	2.40	1
PTHC-3000	3"	3"	4.20	3.55	2.00	3.85	1
PTHC-4000	4"	4"	5.05	5.25	2.85	5.90	1
PTHC-5000	5"	5"	5.5	6.20	3.30	9.70	1

FF, STRAIGHT FULL FLOW



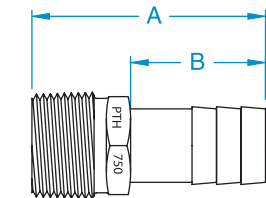
MODEL NO.	NPT PIPE	HOSE ID	DIMENSIONS IN INCHES		WEIGHT (LBS.)	PKG
			A	B		
FF-500	1/2"	3/4"	2.28	1.38	.20	10
FF-750	3/4"	1"	2.39	1.38	.25	10
FF-1000	1"	1-1/4"	2.48	1.38	.32	10
FF-1125	1"	1-1/8"	2.48	1.38	.34	10
FF-1250	1-1/4"	1-1/2"	2.65	1.55	.64	10
FF-1500	1-1/2"	1-3/4"	3.00	1.90	.70	10
FF-2000	2"	2-1/4"	2.89	1.75	.96	10
FF-2500	2-1/2"	2-3/4"	3.47	2.00	1.45	1
FF-3000	3"	3-1/2"	3.61	2.00	2.60	1

FFC, 90° FULL FLOW



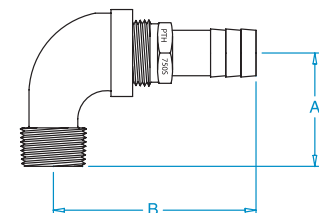
MODEL NO.	NPT PIPE	HOSE ID	DIMENSIONS IN INCHES			WEIGHT (LBS.)	PKG
			A	B	C		
FFC-500	1/2"	3/4"	2.06	2.25	1.38	.32	10
FFC-750	3/4"	1"	2.00	2.20	1.45	.46	10
FFC-1000	1"	1-1/4"	2.70	3.00	1.63	.72	5
FFC-1125	1"	1-1/8"	2.38	2.44	1.75	.90	5
FFC-1250	1-1/4"	1-1/2"	3.60	3.43	1.38	1.18	5
FFC-1500	1-1/2"	1-3/4"	4.25	4.40	1.78	1.45	5
FFC-2000	2"	2-1/4"	5.40	5.15	1.85	2.30	1
FFC-2500	2-1/2"	2-3/4"	6.55	6.00	2.00	4.30	1
FFC-3000	3"	3-1/2"	8.25	6.93	2.10	8.20	1

PTH-S SERIES



MODEL NO.	A	B	PKG
PTH-750-S	2.56	1.50	5
PTH-1000-S	2.95	1.70	5
PTH-1250-S	3.35	2.10	5
PTH-1500-S	3.54	2.20	5
PTH-2000-S	3.94	2.60	1
PTH-2500-S	4.73	2.80	1
PTH-3000-S	5.12	3.20	1

PTHC-S SERIES

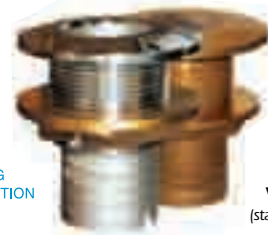
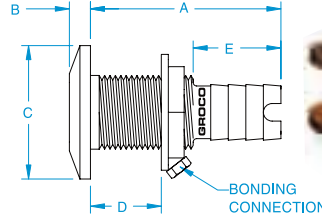


MODEL NO.	A	B	PKG
PTHC-750-S	1.31	2.97	2
PTHC-1000-S	1.50	3.40	2
PTHC-1250-S	1.75	4.00	2
PTHC-1500-S	1.93	4.40	2
PTHC-2000-S	2.25	5.00	1
PTHC-2500-S	2.68	6.25	1
PTHC-3000-S	3.06	7.00	1

STAINLESS STEEL AND BRONZE THRU-HULL FITTINGS

BRONZE MODEL	#316 SS MODEL	NPS SIZE	HOSE ID	DIMENSIONS IN INCHES					BRONZE #	SS #	PKG
				A	B	C	D	E			
HTH-500	HTH-500-S	1/2	1/2	2.7	0.3	1.7	1.1	1.3	0.4	0.4	10
HTH-625	HTH-625-S	3/4	5/8	2.7	0.3	1.9	1.1	1.3	0.5	0.4	10
HTH-750	HTH-750-S	3/4	3/4	2.7	0.3	1.9	1.2	1.3	0.6	0.6	10
HTH-1000	HTH-1000-S	1	1	2.8	0.3	2.3	1.2	1.3	0.9	0.8	10
HTH-1125	HTH-1125-S	1	1-1/8	2.8	0.3	2.3	1.2	1.3	1.1	1.0	10
HTH-1250	HTH-1250-S	1-1/4	1-1/4	2.8	0.3	2.6	1.1	1.3	1.2	1.1	12
HTH-1500	HTH-1500-S	1-1/2	1-1/2	2.8	0.3	2.9	1.1	1.3	1.5	1.3	12
HTH-2000	HTH-2000-S	2	2	2.8	0.3	3.3	1.1	1.3	2.0	1.8	4

BRONZE AND SS THRU-HULLS FOR HOSE

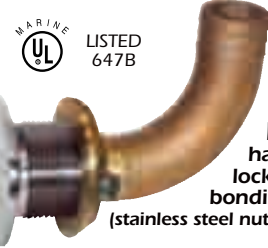
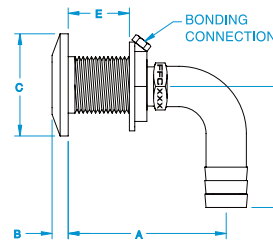


UL LISTED 647B

All models have bronze locknut w/bonding screw (stainless steel nut available)

MODEL NO.	NPS PIPE (HOSE ID)	DIMENSIONS IN INCHES					WEIGHT	PKG.	
		A	B	C	D	E			
HTHC-750-S	3/4"	3/4"	2.71	.30	1.90	2.25	1.25	.56	1
HTHC-1000-S	1"	1"	2.75	.30	2.32	2.20	1.25	.81	1
HTHC-1250-S	1-1/4"	1-1/4"	2.75	.30	2.62	3.03	1.25	1.06	1
HTHC-1500-S	1-1/2"	1-1/2"	4.70	.30	2.89	3.40	1.25	1.31	1
HTHC-2000-S	2"	1-3/4"	5.40	.30	3.33	3.65	1.25	2.00	1

#316 SS HTHC-S SERIES

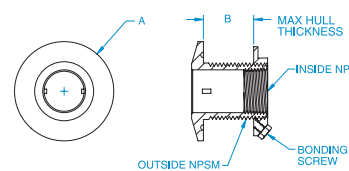


UL LISTED 647B

HTHC-S has bronze locknut with bonding screw (stainless steel nut available)

Create your own above-waterline plumbing connection. #316 SS thru-hull fitting is threaded NPT inside.

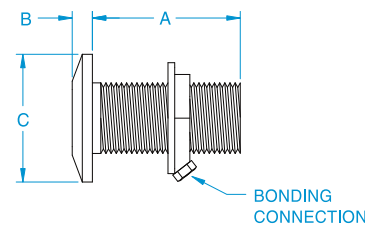
MODEL	DIAMETER A	B	OUTSIDE NPSM	INSIDE NPT	WEIGHT	PKG
TH-1000-CS	2.32	1.2	1"	3/4"	.51	1
TH-1250-CS	2.62	1.2	1-1/4"	1"	.79	1
TH-1500-CS	2.89	1.2	1-1/2"	1-1/4"	.85	1
TH-2000-CS	3.33	1.2	2"	1-1/2"	1.53	1



TH-CS has bronze locknut with bonding screw (stainless steel nut available)

#316 SS TH-CS SERIES

MODEL NO.	NPS PIPE	DIMENSIONS IN INCHES			WEIGHT W/NUT	PKG
		A	B	C		
TH-500	1/2"	2.20	.30	1.70	.40	10
TH-750	3/4"	2.20	.30	1.90	.42	10
TH-1000	1"	2.85	.30	2.32	.72	10
TH-1250	1-1/4"	2.90	.30	2.62	1.30	12
TH-1500	1-1/2"	3.15	.30	2.89	1.64	12
TH-2000	2"	3.90	.30	3.33	2.30	1
TH-2500	2-1/2"	3.56	.42	4.40	3.75	1
TH-3000	3"	5.00	.42	5.50	6.00	1
TH-4000	4"	5.31	.56	7.00	13.20	1
TH-5000	4"	5.34	.57	8.18	18.50	1



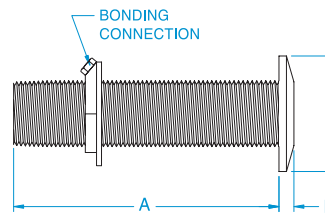
UL LISTED 647B

TH-W has locknut with bonding screw

BRONZE TH SERIES

For installations where hull thickness dictates the use of a longer fitting. Locknut has bonding connection.

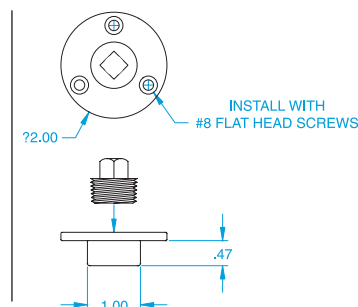
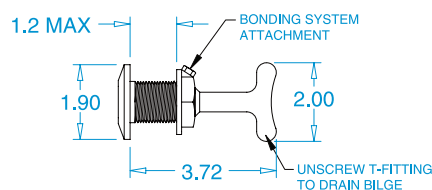
MODEL	DIMENSIONS IN INCHES			WEIGHT W/NUT	PKG
	A	B	C		
THXL-750-W	5.33	0.30	1.90	0.75	4
THXL-1000-W	5.33	0.30	2.32	1.00	4
THXL-1250-W	5.45	0.30	2.62	1.75	6
THXL-1500-W	5.45	0.30	2.89	2.12	6
THXL-2000-W	5.58	0.30	3.34	2.52	4



THXL SERIES

THXL-W has locknut with bonding screw

Once your boat is in its cradle, sling, lift, or trailer, draining the bilge is easy with a garboard drain. All models install from the outside. TD-500 allows draining from outside by removing the square-drive plug. TD-750 (available in bronze or #316 SS) is drained by removing the T-handle from inside.



TD-500

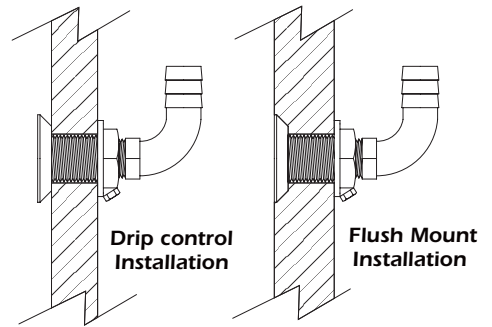
SPECIAL PURPOSE BRONZE THRU-HULL FITTINGS

FTH SERIES

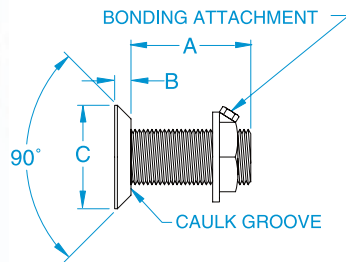
The concept is simple! Water doesn't run uphill!

In above waterline drain applications, choose between a drip control installation and a flush mount installation. In the drip control installation, the fitting protrudes slightly from the hull. As water flow through the fitting ceases, the last drops fall cleanly from the tapered edge of the fitting.

In the flush installation, a cleaner profile is obtained, but if the installation is above the waterline, unsightly stains are likely to appear over time between the fitting and the waterline. The flush installation is, however, ideal for below waterline installations where the serious sailor wishes to reduce drag.



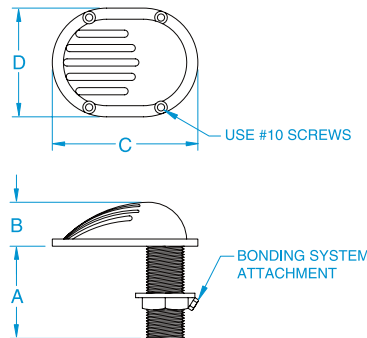
FTH-W has Locknut with bonding screw
(Order FTH-L if locknut is not wanted)



MODEL	NPS PIPE	DIMENSIONS IN INCHES			WEIGHT W/NUT (LBS.)	PKG
		A	B	C		
FTH-500-W	1/2"	2.31	.30	1.75	.38	10
FTH-750-W	3/4"	2.31	.30	2.00	.50	10
FTH-1000-W	1"	2.56	.30	2.32	.88	10
FTH-1250-W	1-1/4"	3.31	.30	2.93	1.38	12
FTH-1500-W	1-1/2"	3.50	.30	3.20	2.00	12
FTH-2000-W	2"	3.56	.35	3.90	2.75	1
FTH-2500-W	2-1/2"	3.56	.42	4.40	3.75	1
FTH-3000-W	3"	5.00	.42	5.50	6.00	1
FTH-4000-W	4"	5.31	.56	7.00	13.20	1

STH SERIES

STH-W has Locknut with bonding screw

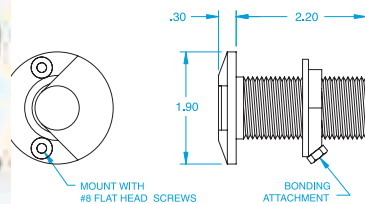


MODEL	NPS PIPE SIZE	DIMENSIONS IN INCHES				WEIGHT	PKG
		A	B	C	D		
STH-500	1/2"	2.20	1.05	3.28	2.55	.70	12
STH-750	3/4"	2.20	1.05	4.00	3.05	.95	12
STH-1000	1"	2.85	1.05	4.00	3.05	1.25	12
STH-1250	1-1/4"	2.90	1.20	4.30	3.35	1.75	9
STH-1500	1-1/2"	3.15	1.30	4.83	3.50	2.25	9
STH-2000	2"	3.60	1.50	5.75	4.00	3.50	4

STH series includes locknut with bonding screw

HSTH SERIES

HSTH-W has Locknut with bonding screw
(Order HSTH-750-L if locknut is not wanted)



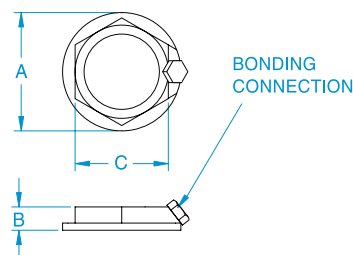
MODEL	NPS PIPE SIZE	DIMENSIONS IN INCHES			WEIGHT	PKG
		A	B	C		
HSTH-750	3/4"	2.20	.30	1.90	.42	10
HSTH-1000	1"	2.85	.30	2.32	.72	10
HSTH-1250	1-1/4"	2.90	.30	2.62	1.30	12
HSTH-1500	1-1/2"	3.15	.30	2.89	1.64	12
HSTH-2000	2"	3.60	.30	3.33	2.30	1

HSTH series includes locknut with bonding screw

BRONZE THRU-HULL LOCK NUTS W/BONDING SCREW



Locknut has bonding screw.
(Use ring terminal for #6 stud)



MODEL NO.	NPS PIPE	DIMENSIONS IN INCHES			WEIGHT (LBS.)	BULK PKG
		A	B	C		
TH-501	1/2"	1.50	.33	1.13	.05	25
TH-751	3/4"	1.65	.33	1.30	.04	25
TH-1001	1"	2.08	.33	1.55	.11	25
TH-1251	1-1/4"	2.50	.45	1.95	.21	25
TH-1501	1-1/2"	2.90	.45	2.28	.32	25
TH-2001	2"	3.50	.45	2.75	.54	10
TH-2501	2-1/2"	4.72	.70	3.46	1.00	10
TH-3001	3"	5.45	.70	4.13	1.45	10
TH-4001	4"	7.13	.70	6.00	3.61	1

THT-530 / RWM SERIES - RAW WATER MANIFOLDS (PATENTED)

THT-530 THRU-HULL FITTING INSTALLATION TOOL

THT-530 makes the installation of standard GROCO thru-hull fittings possible by a single installer. Slide the thru-hull fitting, flanged end first, over the tool. (It will stop at the proper step.) Tie a length of monofilament to the eye and place it into the already-cut hole in the hull of the boat. Apply caulking to the flange of the fitting, and pull the fitting through the hole and against the hull from inside the boat. Thread the monofilament through the locknut or seacock. With the fitting pulled firmly against the hull the locknut or the seacock may be screwed onto the fitting.



THT-530 fits GROCO Thru-hull Fitting Sizes from 1/2" through 3"

NOT FOR REMOVAL OF OLD THRU-HULL FITTINGS

RWM SERIES - RAW WATER MANIFOLDS (PATENTED)

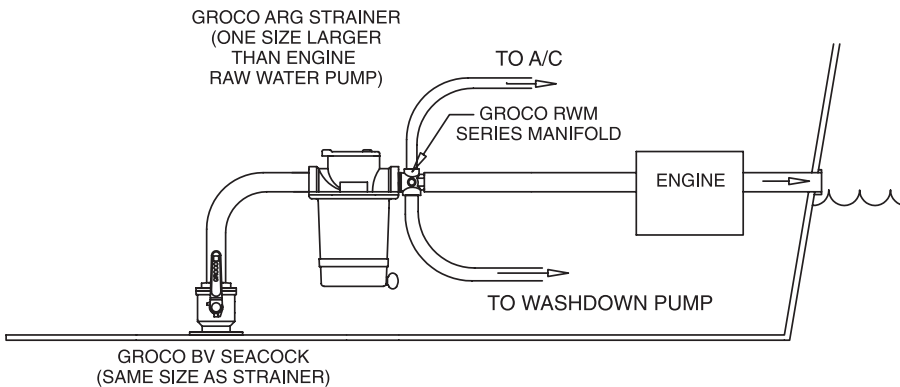
THE CONCEPT

While we do not recommend the practice of supplying raw or filtered water to multiple consumers from a single inlet source (ie: toilets, washdown pumps, air conditioners, generators, etc) we do recognize that it is common practice to do so, particularly when one or more of the consumers is an intermittent consumer.

If this is your intention, protect your equipment by installing a GROCO RWM Raw Water Manifold. You will be guided to use proper pipe or hose sizes, thus reducing the possibility of imposing dangerous restrictions to one or all of the consumers.

The barbed outlet is connected to the primary consumer (your main engine, for example) and is smaller than the threaded inlet which screws into a seacock or strainer outlet of the next larger pipe size (see sample installations). The larger threaded end requires that a larger strainer or inlet seacock be used, thus assuring adequate flow to all consumers.

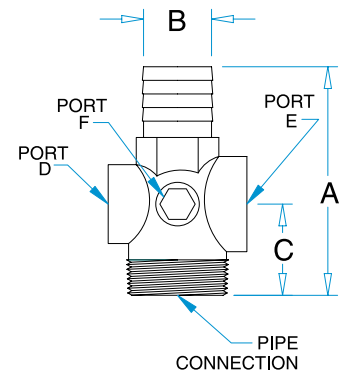
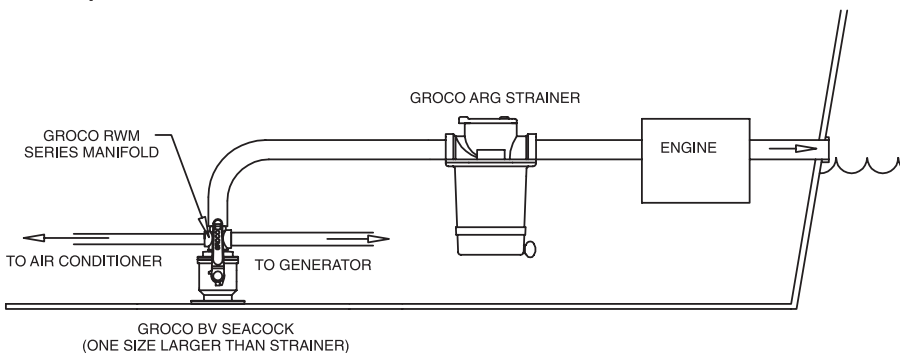
The combined cross-sections of the primary consumer plus the threaded secondary consumer connections (to A/C and generator, for example) does not exceed the cross-section of the threaded inlet end.



RWM Raw Water Manifold



▲ Sample Installation shows RWM Manifold used to distribute filtered water



▲ Sample Installation shows RWM Manifold used to distribute raw (unfiltered) water

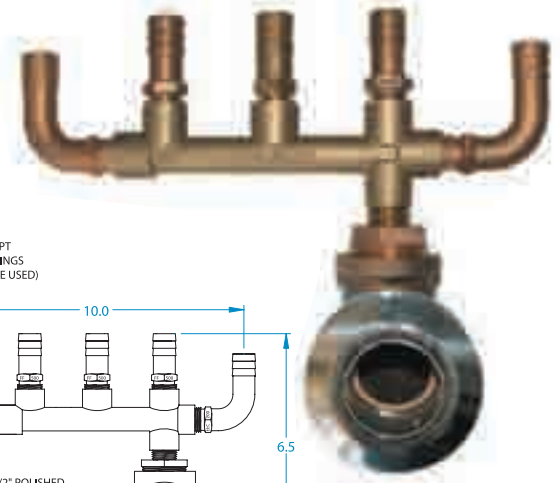
Dimensions

MODEL	PIPE	A	HOSE ID - B	C	PORT-D	PORT-E	PORT-F
RWM-1250	1-1/4" NPT	3.75	1"	1.37	1/2" NPT	1/2" NPT	1/4" NPT
RWM-1500	1-1/2" NPT	4.13	1-1/4"	1.57	3/4" NPT	3/4" NPT	1/4" NPT
RWM-1500-1	1-1/2" NPT	4.13	1-1/4"	1.57	1/2" NPT	1" NPT	1/4" NPT
RWM-2000	2" NPT	4.65	1-1/2"	2.00	3/4" NPT	3/4" NPT	1/4" NPT
RWM-2000-1	2" NPT	4.65	1-1/2"	2.00	3/4" NPT	1" NPT	1/4" NPT
RWM-2500	2-1/2" NPT	5.00	2"	2.00	3/4" NPT	1" NPT	1/4" NPT
RWM-3000	3" NPT	5.50	2-1/2"	2.50	1" NPT	1-1/4" NPT	1/4" NPT

DRAIN MANIFOLD

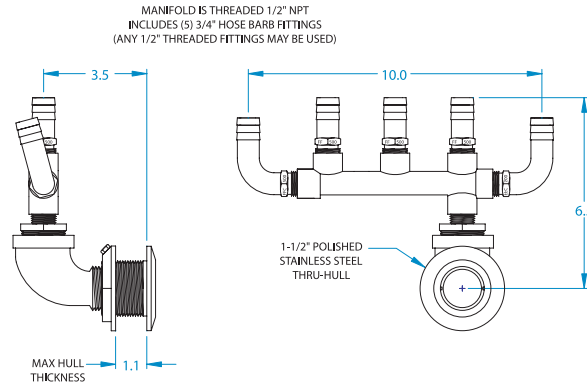
THE CONCEPT

To reduce the number of above waterline hull openings in your boat we offer a simple way to plumb multiple 1/2" or 3/4" ID low pressure lines (sinks and showers for example) to a single above waterline overboard drain fitting. The exterior look is clean and attractive, while inside is a compact grouping of all connected hoses.



DM-5-1500

- Manifold is threaded at the ends, so additional manifolds can be added.
- Includes bronze fittings for (5) 3/4" ID hose connections.
- Accepts any 1/2" NPT threaded valve or fitting.
- Exterior fitting is polished #316 Stainless Steel.
- Bonding attachment is included.
- Other sizes are available.



NPS STRAIGHT THREADED TAIL PIECES & DRAIN MANIFOLDS

THE CONCEPT

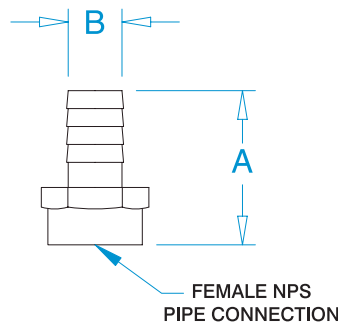
TP and TPC series Tail Pieces are threaded with NPS (straight) female pipe thread, and are for use with GROCO SV series Seacocks or with any product with straight male pipe thread.

The use of TP and TPC series Tail Pieces on products with NPT (tapered) pipe thread is recommended only for low pressure applications, and then only with a generous application of pipe sealant or thread tape.

TP SERIES - STRAIGHT BRONZE TAIL PIECES



TP
Straight
Tail
Piece

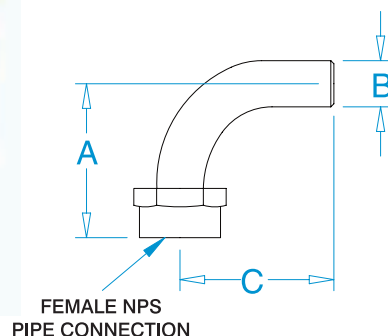


MODEL NO.	NPS PIPE SIZE	DIMENSIONS		PKG
		A	B	
TP-625	3/4"	1.75	5/8"	1
TP-750	3/4"	2.13	3/4"	1
TP-1000	1"	2.13	1"	1
TP-1250	1-1/4"	2.75	1-1/4"	1
TP-1500	1-1/2"	2.75	1-1/2"	1
TP-2000	2"	2.50	2"	1
TP-2500	2-1/2"	2.50	2-1/2"	1

TPC SERIES - 90° BRONZE TAIL PIECES



TPC
90
Tail Piece



MODEL NO.	NPS PIPE SIZE	DIMENSIONS			PKG
		A	B	C	
TPC-750	3/4"	2.75	3/4"	2.63	1
TPC-1000	1	2.75	1"	2.38	1
TPC-1250	1-1/4"	2.50	1-1/4"	2.38	1
TPC-1500	1-1/2"	3.75	1-1/2"	2.75	1
TPC-2000	2"	3.75	2"	3.63	1
TPC-2500	2-1/2"	4.50	2-1/2"	4.50	1

TPC series 90 tail pieces are comprised of two pieces. The swivel may be rotated in any direction to facilitate ease of hook-up; then the nut is tightened.