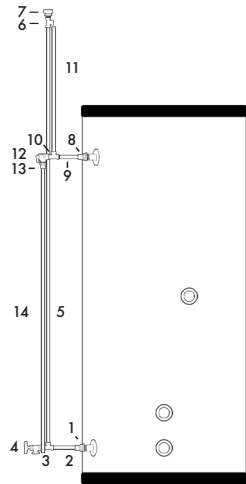


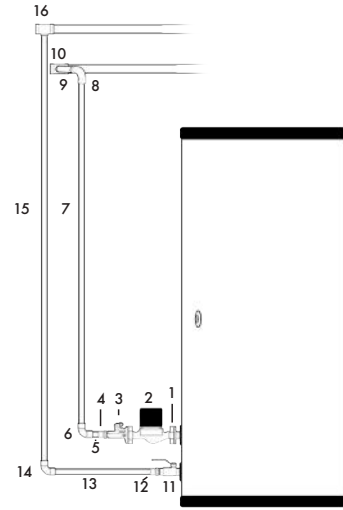
INDIRECT WATER HEATER PIPING COMPARISON Conventional Side-Connect vs. Heat-flo "Top-Of-Tank" Connect

Typical Side-Connect Indirect 40 Gallon Water Heater

Domestic Piping



Boiler Piping



Typical Side-Connect Indirect Water Heater Materials List

Cold Piping			Supply Piping		
COMPONENT	QTY.	COST	COMPONENT	QTY.	COST
1 3/4" Female Adapter	1	\$2.63	1 Taco 110-252F 1" Flange	0.5	\$5.22
2 3/4" Cu Tubing*	3"	\$0.50	2 Pump, Taco 007-F5-71FC	1	\$88.90
3 3/4" Cu Tee (C X F X C)	1	\$19.14	3 Shutoff w/ Purge, Webstone 50414	1	\$35.18
4 Drain Valve	1	\$6.23	4 1" Male Adapter	1	\$5.17
5 3/4" Cu Tubing*	72"	\$11.94	5 1" Cu Tubing**	3"	\$0.62
6 3/4" Cu Tee (C X F X C)	1	\$19.14	6 1" 90 Deg. Elbow	1	\$3.17
7 Watts 1/2" Vacuum Relief	1	\$13.79	7 1" Cu Tubing**	55"	\$11.41
Hot Piping			8 1" 90 Deg. Elbow	1	\$3.17
8 3/4" Female Adapter	1	\$2.63	9 1" Cu Tubing**	8"	\$1.66
9 3/4" Cu Tubing*	3"	\$0.50	10 1-1/4" X 1-1/4" X 1" Tee (C X C X C)	1	\$11.74
10 3/4" Cu Tee (C X F X C)	1	\$19.14	Return Piping		
11 3/4" Cu Tubing*	32"	\$5.31	11 Shutoff Valve, 1" IPS, Wat LFFBV-3C	1	\$12.61
T&P Piping			12 1" Male Adapter	1	\$5.17
12 T&P Valve (Watts 100XL8)	1	\$15.78	13 1" Cu Tubing**	3"	\$0.62
13 3/4" Male Adapter	1	\$2.02	14 1" 90 Deg. Elbow	1	\$3.17
14 3/4" Cu Tubing**	40"	\$5.40	15 1" Cu Tubing**	72.25"	\$14.99
			16 1-1/4" X 1-1/4" X 1" Tee (C X C X C)	1	\$11.74

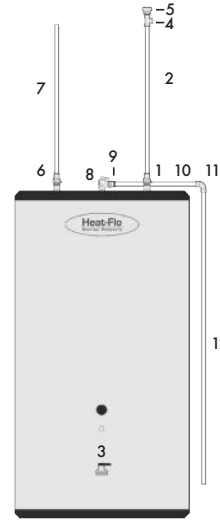
Total Cost **\$124.14**

Total Cost **\$214.54**

TOTAL MATERIAL COSTS: **\$338.68**

Heat-flo HF-40 Indirect Water Heater

Domestic Piping



Boiler Piping



Heat-flo's
"Top-of-Tank"
tie-ins
save over
\$80
on materials
and at least
25%
on labor!

Heat-flo "Top-Of-Tank" Indirect Water Heater Materials List

Cold Piping			Supply Piping		
COMPONENT	QTY.	COST	COMPONENT	QTY.	COST
1 3/4" Female Adapter	1	\$2.63	1 Taco 110-252F 1" Flange	0.5	\$5.22
2 3/4" Cu Tubing*	34"	\$5.64	2 Pump, Taco 007-F5-71FC	1	\$88.90
3 Drain Valve (Factory-Installed)	1	\$0.00	3 Shutoff w/ Purge, Webstone 50414	1	\$35.18
4 3/4" Cu Tee (C X F X C)	1	\$19.14	4 1" Male Adapter	1	\$5.17
5 Watts 1/2" Vacuum Relief	1	\$13.79	5 1" Cu Tubing**	14.5"	\$3.01
Hot Piping			6 1" 90 Deg. Elbow	1	\$3.17
6 3/4" Female Adapter	1	\$2.63	7 1" Cu Tubing**	16"	\$3.32
7 3/4" Cu Tubing*	34"	\$5.64	8 1-1/4" X 1-1/4" X 1" Tee (C X C X C)	1	\$11.74
T&P Valve Piping			Return Piping		
8 T & P Valve (Factory-Installed)	0	\$0.00	9 Shutoff Valve, 1" IPS, Wat LFFBV-3C	1	\$12.61
9 3/4" Male Adapter	1	\$2.03	10 1" Male Adapter	1	\$5.17
10 3/4" Cu Tubing**	11"	\$1.49	11 1" Cu Tubing**	28"	\$5.81
11 3/4" 90 deg. Elbow	1	\$1.29	12 1" 90 Deg. Elbow	1	\$3.17
12 3/4" Cu Tubing**	38"	\$5.13	13 1" Cu Tubing**	12"	\$2.49
			14 1-1/4" X 1-1/4" X 1" Tee (C X C X C)	1	\$11.74

Total Cost **\$59.40**

Total Cost **\$196.70**

TOTAL MATERIAL COSTS: **\$256.10**



Indirect Water Heater Piping Comparison Example / Assumptions

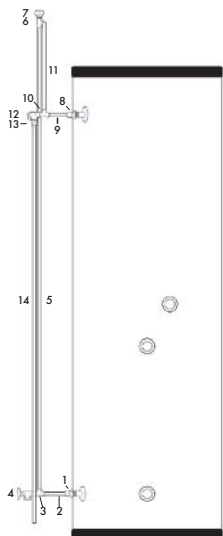
- The installation is a typical residential installation in a basement. The installing contractor does not want to get on his hands and knees and connect piping to fittings that are low on the tank, and does not want to run piping along the floor. The domestic cold and hot water are piped to floor joints that are 78" off the floor.
- The boiler supply and return headers are 66" and 72" off the floor, either hanging from the floor joists or mounted on the wall behind the equipment.
- The top connect unit is a Heat-flo indirect with easy-to-install piping on top. The T+P valve and the drain valve are both factory-installed.
- The side-connect unit is typical of most side-connect units with fittings low on the tank and require the T+P valve and the drain valve to be installed with extra "do-it-yourself" parts.
- Installing a Heat-flo unit vs. a typical side-connect unit saves \$188.93 on material costs. In addition, the top-connect unit requires 25% less threaded joints, solder joints, and tube cuts.

NOTE:
Material costs are typical contractor prices as of 10/15/17
*3/4" Cu Tubing at \$1.99 / ft. Type L
**3/4" Cu Tubing at \$1.62 / ft. Type M
***1" Cu Tubing at \$3.19 / ft. Type L
****1" Cu Tubing at \$2.49 / ft. Type M

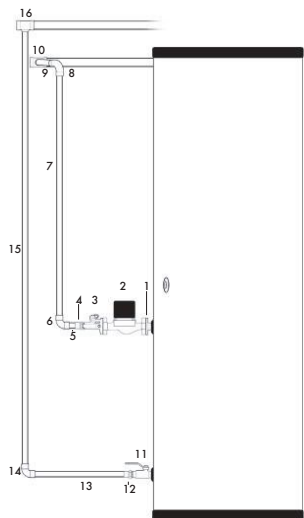
INDIRECT WATER HEATER PIPING COMPARISON Conventional Side-Connect vs. Heat-flo "Top-Of-Tank" Connect

Typical Side-Connect Indirect 80 Gallon Water Heater

Domestic Piping



Boiler Piping



Typical Side-Connect Indirect Water Heater Materials List

Cold Piping			Supply Piping		
COMPONENT	QTY.	COST	COMPONENT	QTY.	COST
1 1C X 1-1/2 F Female Adapter	1	\$36.47	1 Taco 110-252F 1" Flange	0.5	\$5.22
2 1" Cu Tubing*	3"	\$0.80	2 Pump, Taco 007-F5-71FC	1	\$88.90
3 1" Cu Tee (C X F X C)	1	\$38.29	3 Shutoff w/ Purge, Webstone 50414	1	\$35.18
4 Drain Valve	1	\$6.23	4 1" Male Adapter	1	\$5.17
5 1" Cu Tubing*	71.25"	\$18.94	5 1" Cu Tubing**	3"	\$0.62
6 1" Cu Tee (C X F X C)	1	\$34.76	6 1" 90 Deg. Elbow	1	\$3.17
7 Watts LFN36M1 1/2" Vacuum Relief	1	\$13.79	7 1" Cu Tubing**	36"	\$7.47
Hot Piping			8 1" 90 Deg. Elbow	1	\$3.17
8 1C X 1-1/2 F Female Adapter	1	\$36.47	9 1" Cu Tubing**	8"	\$1.66
9 1" Cu Tubing*	3"	\$0.80	10 1-1/4" X 1-1/4" X 1" Tee (C X C X C)	1	\$11.74
10 1" Cu Tee (C X F X C)	1	\$38.29	Return Piping		
11 1" Cu Tubing*	13.25"	\$3.52	11 Shutoff Valve, 1" IPS, Wat LFFBV-3C	1	\$12.61
T&P Piping			12 1" Male Adapter	1	\$5.17
12 T&P Valve (Watts 100XL8)	1	\$15.78	13 1" Cu Tubing**	3"	\$0.62
13 3/4" Male Adapter	1	\$2.03	14 1" 90 Deg. Elbow	1	\$3.17
14 3/4" Cu Tubing**	58.75"	\$7.93	15 1" Cu Tubing**	65.5"	\$13.59
			16 1-1/4" X 1-1/4" X 1" Tee (C X C X C)	1	\$11.74

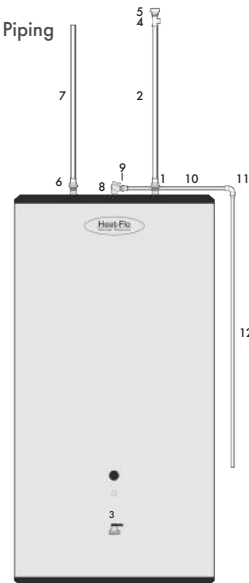
Total Cost **\$254.10**

Total Cost **\$209.21**

TOTAL MATERIAL COSTS: **\$463.31**

Heat-flo HF-80 Indirect Water Heater

Domestic Piping



Boiler Piping



Heat-flo's
"Top-of-Tank"
tie-ins
save over
\$185
on materials
and at least
25%
on labor!

Heat-flo "Top-of-Tank" Indirect Water Heater Materials List

Cold Piping			Supply Piping		
COMPONENT	QTY.	COST	COMPONENT	QTY.	COST
1 1" Female Adapter	1	\$5.17	1 Taco 110-252F 1" Flange	0.5	\$5.22
2 1" Cu Tubing**	24"	\$6.38	2 Pump, Taco 007-F5-71FC	1	\$88.90
3 Drain Valve (Factory-Installed)	1	\$0.00	3 Shutoff w/ Purge, Webstone 50414	1	\$35.18
4 1" Cu Tee (C X F X C)	1	\$34.76	4 1" Male Adapter	1	\$5.17
5 Watts LFN36M1 1/2" Vacuum Relief	1	\$13.79	5 1" Cu Tubing**	4.5"	\$0.93
Hot Piping			6 1" 90 Deg. Elbow	1	\$3.17
6 1" Female Adapter	1	\$5.17	7 1" Cu Tubing**	16"	\$3.32
7 1" Cu Tubing**	24"	6.38	8 1-1/4" X 1-1/4" X 1" Tee (C X C X C)	1	\$11.74
T&P Valve Piping			Return Piping		
8 T & P Valve (Factory-Installed)	0	\$0.00	9 Shutoff Valve, 1" IPS, Wat LFFBV-3C	1	\$12.61
9 3/4" Male Adapter	1	\$2.03	10 1" Male Adapter	1	\$5.17
10 3/4" Cu Tubing*	14"	\$2.32	11 1" Cu Tubing**	12"	\$2.49
11 3/4" 90 deg. Elbow	1	\$1.29	12 1" 90 Deg. Elbow	1	\$3.17
12 3/4" Cu Tubing**	48"	\$6.48	13 1" Cu Tubing**	10"	\$2.08
			14 1-1/4" X 1-1/4" X 1" Tee (C X C X C)	1	\$11.74

Total Cost **\$83.77**

Total Cost **\$190.89**

TOTAL MATERIAL COSTS: **\$274.66**

Indirect Water Heater Piping Comparison Example / Assumptions

- The installation is a typical residential installation in a basement. The installing contractor does not want to get on his hands and knees and connect piping to fittings that are low on the tank, and does not want to run piping along the floor. The domestic cold and hot water are piped to floor joints that are 78" off the floor.

- The boiler supply and return headers are 66" and 72" off the floor, either hanging from the floor joists or mounted on the wall behind the equipment.

- The top connect unit is a Heat-flo indirect with easy-to-install piping on top. The T+P valve and the drain valve are both factory-installed.

- The side-connect unit is typical of most side-connect units with fittings low on the tank and require the T+P valve and the drain valve to be installed with extra "do-it-yourself" parts.

- Installing a Heat-flo unit vs. a typical side-connect unit saves \$188.93 on material costs. In addition, the top-connect unit requires 25% less threaded joints, solder joints, and tube cuts.

NOTE:

Material costs are typical contractor prices as of 10/15/17

*3/4" Cu Tubing at \$1.99 / ft. Type L

**3/4" Cu Tubing at \$1.62 / ft. Type M

***1" Cu Tubing at \$3.19 / ft. Type L

****1" Cu Tubing at \$2.49 / ft. Type M



Heat-flo