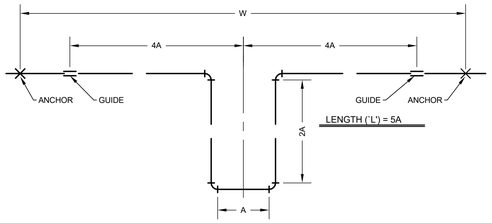



### LENGTH OF 'L' IN FEET OF EXPANSION LOOPS
FOR DELTA T OF 160° F (40°-200°) OR LESS

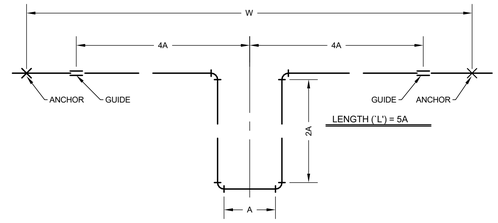
| W | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | 4" | 5" | 6" | 8" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-25' | 3.6 | 4.0 | 4.5 | 4.8 | 5.4 | 5.9 | 6.5 | 7.0 | 7.4 | 8.3 | 9.0 | 10.3 |
| 25-50' | 5.0 | 5.6 | 6.3 | 6.7 | 7.5 | 8.3 | 9.2 | 9.8 | 10.4 | 11.5 | 12.6 | 14.4 |
| 50-75' | 6.1 | 6.8 | 7.7 | 8.3 | 9.3 | 10.2 | 11.2 | 12.0 | 12.7 | 14.1 | 15.4 | 17.5 |
| 75-100' | 7.0 | 7.9 | 8.8 | 9.5 | 10.7 | 11.7 | 13.0 | 13.8 | 14.6 | 16.3 | 17.8 | 20.2 |
| 100-125' | 8.0 | 8.9 | 10.0 | 10.4 | 11.9 | 13.1 | 14.5 | 15.4 | 16.4 | 18.3 | 19.9 | 22.7 |
| 125-150' | 8.7 | 9.7 | 10.9 | 11.7 | 13.1 | 14.4 | 15.9 | 16.9 | 18.0 | 19.9 | 21.8 | 24.8 |
| 150-175' | 9.4 | 10.4 | 11.8 | 12.6 | 14.1 | 15.4 | 17.1 | 18.3 | 19.4 | 21.5 | 23.5 | 26.8 |
| 175-200' | 10.0 | 11.2 | 12.6 | 13.5 | 15.0 | 16.5 | 18.4 | 19.5 | 20.6 | 22.9 | 25.2 | 28.7 |
| 200-250' | 11.2 | 12.5 | 14.0 | 14.9 | 16.9 | 18.8 | 20.3 | 21.8 | 23.1 | 25.7 | 28.1 | 32.0 |

### LENGTH OF 'L' IN METERS OF EXPANSION LOOPS
FOR DELTA T OF 71° C (4°-93°) OR LESS

| W | 19mm | 25mm | 32mm | 38mm | 51mm | 64mm | 76mm | 89mm | 102mm | 127mm | 152mm | 203mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-7.6m | 1100 | 1220 | 1370 | 1460 | 1650 | 1800 | 1980 | 2130 | 2260 | 2530 | 2740 | 3140 |
| 7.6-15.2m | 1520 | 1710 | 1920 | 2040 | 2290 | 2530 | 2800 | 2990 | 3170 | 3510 | 3840 | 4390 |
| 15.2-22.9m | 1860 | 2070 | 2350 | 2530 | 2840 | 3110 | 3410 | 3660 | 3871 | 4300 | 4690 | 5334 |
| 22.9-30.5m | 2130 | 2410 | 2680 | 2900 | 3260 | 3570 | 3960 | 4210 | 4450 | 4970 | 5430 | 6160 |
| 30.5-38.1m | 2440 | 2710 | 3050 | 3170 | 3630 | 4000 | 4420 | 4690 | 5000 | 5580 | 6070 | 6920 |
| 38.1-45.7m | 2650 | 2960 | 3320 | 3570 | 4000 | 4390 | 4850 | 5150 | 5490 | 6070 | 6650 | 7560 |
| 45.7-53.4m | 2870 | 3170 | 3600 | 3840 | 4300 | 4700 | 5210 | 5580 | 5910 | 6550 | 7160 | 8170 |
| 53.4-61m | 3050 | 3410 | 3840 | 4120 | 4570 | 5030 | 5610 | 5940 | 6280 | 6980 | 7680 | 8750 |
| 61-76.2m | 3410 | 3810 | 4270 | 4540 | 5150 | 5730 | 6190 | 6650 | 7040 | 7830 | 8570 | 9750 |

— A TO A REFERS TO LENGTH FROM ANCHOR TO ANCHOR
— TYPICAL FOR CARBON STEEL PIPE

## EXPANSION LOOP DETAIL - STEEL PIPE
SCALE: N.T.S




### LENGTH OF 'L' IN FEET OF EXPANSION LOOPS
FOR DELTA T OF 160° F (40°-200°) OR LESS

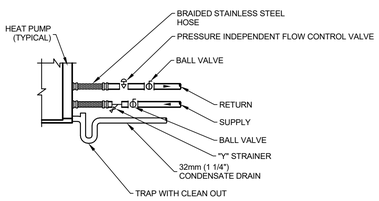
| W | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | 4" | 5" | 6" | 8" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-25' | 5.4 | 6.0 | 6.8 | 7.2 | 8.1 | 8.9 | 9.8 | 10.5 | 11.1 | 12.5 | 13.5 | 15.5 |
| 25-50' | 7.5 | 8.4 | 9.5 | 10.1 | 11.3 | 12.5 | 13.8 | 14.7 | 15.6 | 17.3 | 18.9 | 21.6 |
| 50-75' | 9.2 | 10.2 | 11.6 | 12.5 | 14.0 | 15.3 | 16.8 | 18.0 | 19.1 | 21.2 | 23.1 | 26.3 |
| 75-100' | 10.5 | 11.9 | 13.2 | 14.3 | 16.1 | 17.6 | 19.5 | 20.7 | 21.9 | 24.5 | 26.7 | 30.3 |
| 100-125' | 12.0 | 13.4 | 15.0 | 15.6 | 17.9 | 19.7 | 21.8 | 23.1 | 24.6 | 27.5 | 29.9 | 34.1 |
| 125-150' | 13.1 | 14.6 | 16.4 | 17.6 | 19.7 | 21.6 | 23.9 | 25.4 | 27.0 | 29.9 | 32.7 | 37.2 |
| 150-175' | 14.1 | 15.6 | 17.7 | 18.9 | 21.2 | 23.1 | 25.7 | 27.5 | 29.1 | 32.3 | 35.3 | 40.2 |
| 175-200' | 15.1 | 16.8 | 18.9 | 20.3 | 22.5 | 24.8 | 27.6 | 29.3 | 30.9 | 34.4 | 37.8 | 43.1 |
| 200-250' | 16.8 | 18.8 | 21.0 | 22.4 | 25.4 | 28.2 | 30.5 | 32.7 | 34.7 | 38.6 | 42.2 | 48.0 |

### LENGTH OF 'L' IN METERS OF EXPANSION LOOPS
FOR DELTA T OF 71° C (4°-93°) OR LESS

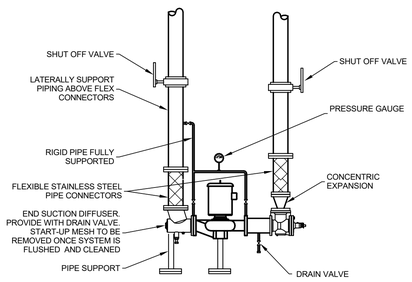
| W | 19mm | 25mm | 32mm | 38mm | 51mm | 64mm | 76mm | 89mm | 102mm | 127mm | 152mm | 203mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-7.6m | 1650 | 1830 | 2070 | 2200 | 2470 | 2710 | 2990 | 3200 | 3380 | 3810 | 4120 | 4720 |
| 7.6-15.2m | 2290 | 2560 | 2900 | 3080 | 3440 | 3810 | 4210 | 4480 | 4760 | 5270 | 5760 | 6580 |
| 15.2-22.9m | 2800 | 3110 | 3540 | 3810 | 4270 | 4660 | 5120 | 5490 | 5820 | 6460 | 7040 | 8020 |
| 22.9-30.5m | 3200 | 3630 | 4020 | 4360 | 4910 | 5360 | 5940 | 6310 | 6680 | 7470 | 8140 | 9240 |
| 30.5-38.1m | 3660 | 4080 | 4570 | 4760 | 5460 | 6010 | 6650 | 7040 | 7500 | 8380 | 9110 | 10390 |
| 38.1-45.7m | 4000 | 4450 | 5000 | 5360 | 6010 | 6580 | 7290 | 7740 | 8230 | 9110 | 9970 | 11340 |
| 45.7-53.4m | 4300 | 4760 | 5400 | 5760 | 6460 | 7040 | 7830 | 8380 | 8870 | 9850 | 10760 | 12250 |
| 53.4-61m | 4600 | 5120 | 5760 | 6190 | 6860 | 7560 | 8410 | 8930 | 9418 | 10490 | 11520 | 13140 |
| 61-76.2m | 5120 | 5730 | 6400 | 6830 | 7740 | 8600 | 9300 | 9970 | 10577 | 11770 | 12860 | 14630 |

— A TO A REFERS TO LENGTH FROM ANCHOR TO ANCHOR
— TYPICAL FOR COPPER PIPE

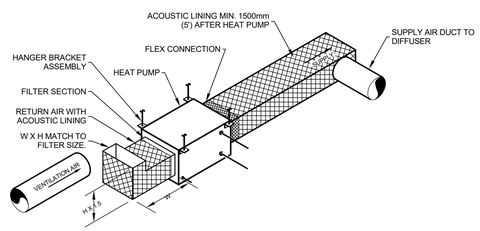
## EXPANSION LOOP DETAIL - COPPER PIPE
SCALE: N.T.S




## HEAT PUMP CONNECTION DETAIL
SCALE: N.T.S.




## INLINE PUMP DETAIL
SCALE: N.T.S.




## HEAT PUMP DETAIL
SCALE: N.T.S.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560 ACADEMY ROAD WINNIPEG MB R3N 0E3
T. 204 989 8910
ARCHITECT

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Winnipeg, MB R3B 0P4
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D. A. SIEPMAN
Member
23527
2023-02-03
REGISTERED PROFESSIONAL ENGINEER

Project
WFPS STATION 9
1083 AUTUMNWOOD DRIVE

Sheet Title
DETAILS - HYDRONIC

Project No. 22028
Sheet MY4.1

CIBINEL - Arch D - 24" X 36"