

**Remit To:** Auburn Mechanical  
PO BOX 249  
Auburn, WA 98071

**Work Order:** 23130  
**Customer #:** 10402

**Invoice** 32382  
Invoice Date 01/25/23  
**Due Date** 02/24/23  
Terms Net 30

**Bill To:** 77 Central Apartments  
2630 77th Ave SE  
Mercer Island, WA 98040

**Service Location:** 77 Central Apartments  
2630 77th Ave SE  
Mercer Island, WA 98040

**Requested By:** Terry Graham

**Scope Detail:** CU-07 Leak Check and Repair  
terry.graham@cushwake.com

reports: nora.grant@cushwake.com;

**Work Description:** 1/4 - Technicians arrived on site. Verified low charge with the maintenance tool. Shut down system. Recovered 25# of an approximate 88# R410a charge. Placed gauges on branch controller, outdoor unit, and main piping. Charged with 425# nitrogen for leak check. Recorded all gauges. Cleaned up work site. Continued with job.  
1/5 - Continued with leak check where Wes left off. Returned to site following day to check results of overnight pressure test. Found possible small leaks on branches 4, 5, 6 and 8. Small pressure drops may have been attributed to equalization while isolating branches or temperature compensation of nitrogen overnight. Found branches 10,11 and 12 with larger leaks but not 100% pressure loss. Isolated suspect branches and attempted to triple evacuate system. allowed to evacuate overnight.  
1/6 - Returned following morning checked results of triple evac. Found system micron vacuum level would not drop below 1000 micron and continued to jump up well above 2000 micron when isolating vacuum pump. Determined all leaks had not been found and would need to perform pressure test again since initial results were inconclusive. Retested and calibrated all test gauges and gear again and setup pressure test again isolating all sections of pipe for CU-7 and each individual branch. Decided that all following pressure tests will now be performed @ 600PSI vs 500 psi.  
1/10 - Returned to site and checked results Monday. Found significant leaks on branch 1/533 @ 150psi, 4/336 0psi, branch 7/438 0psi, 8/436 dropped 100 psi to 500, 12/542 dropped 50 lbs. Determined system CU-7 has too many failed branches to isolate and charge system to limp along until repairs can be made. Unable to determine temporary charge with so many branches offline. Do not have a DSB for the site to be able to calculate charge without risking damage to rooftop equipment. We stopped work at this point to reconsider repair recommendations. We will be gathering info to propose replacing all fan coils associated with CU-7 since we have a significant failure rate.  
1/18 - Gathered more system information and handed off to PM for a more comprehensive repair proposal due to size and scope of job. Contacted vendor and found they had a copy of original DSB on file and supplied us with it to aid in repair proposals and repair. Job complete for now.

**Price Method:** Time and Materials

Date of Service	Description	Technician	Quantity	Unit Price	Price Total
<b>Cost Type: 1 - Labor</b>					
01/04/23	Labor - Service	Carlson, Wesley R	8.00	161.50	1,292.00
01/05/23	Labor - Service	Morfin, Juan G	5.00	161.50	807.50
01/05/23	Labor - Service	Karlson, Nigel I	4.00	161.50	646.00
01/06/23	Labor - Service	Morfin, Juan G	10.00	161.50	1,615.00
01/10/23	Labor - Service	Morfin, Juan G	4.00	161.50	646.00
01/10/23	Labor - Service	Karlson, Nigel I	4.00	161.50	646.00
01/09/23	Labor - Service	Morfin, Juan G	8.00	161.50	1,292.00
01/11/23	Labor - Service	Morfin, Juan G	2.00	161.50	323.00
01/12/23	Labor - Service	Morfin, Juan G	2.50	161.50	403.75
01/13/23	Labor - Service	Morfin, Juan G	3.50	161.50	565.25
01/16/23	Labor - Service	Morfin, Juan G	2.00	161.50	323.00
01/18/23	Labor - Service	Morfin, Juan G	1.00	161.50	161.50
<b>Cost Type: 2 - Materials &amp; Equ</b>					
01/03/23	Purchase - Gauge, Torque tool, Couplers, ETC		1.00	823.20	823.20
01/06/23	Purchase - 75lbs Refrigerant		1.00	1,986.27	1,986.27
<b>Cost Type: 7 - Miscellaneous</b>					
12/23/22	Other - Consumable Fee		1.00	25.00	25.00
12/23/22	Other - Truck Charge		1.00	60.00	60.00
			<b>Subtotal</b>		11,615.47
			<b>Tax</b>		1,173.17
			<b>Total</b>		12,788.64

A FINANCE CHARGE OF 1.5% PER MONTH (18% PER ANNUM)  
WILL BE CHARGED ON UNPAID BALANCES.