



Empowering you to work smarter

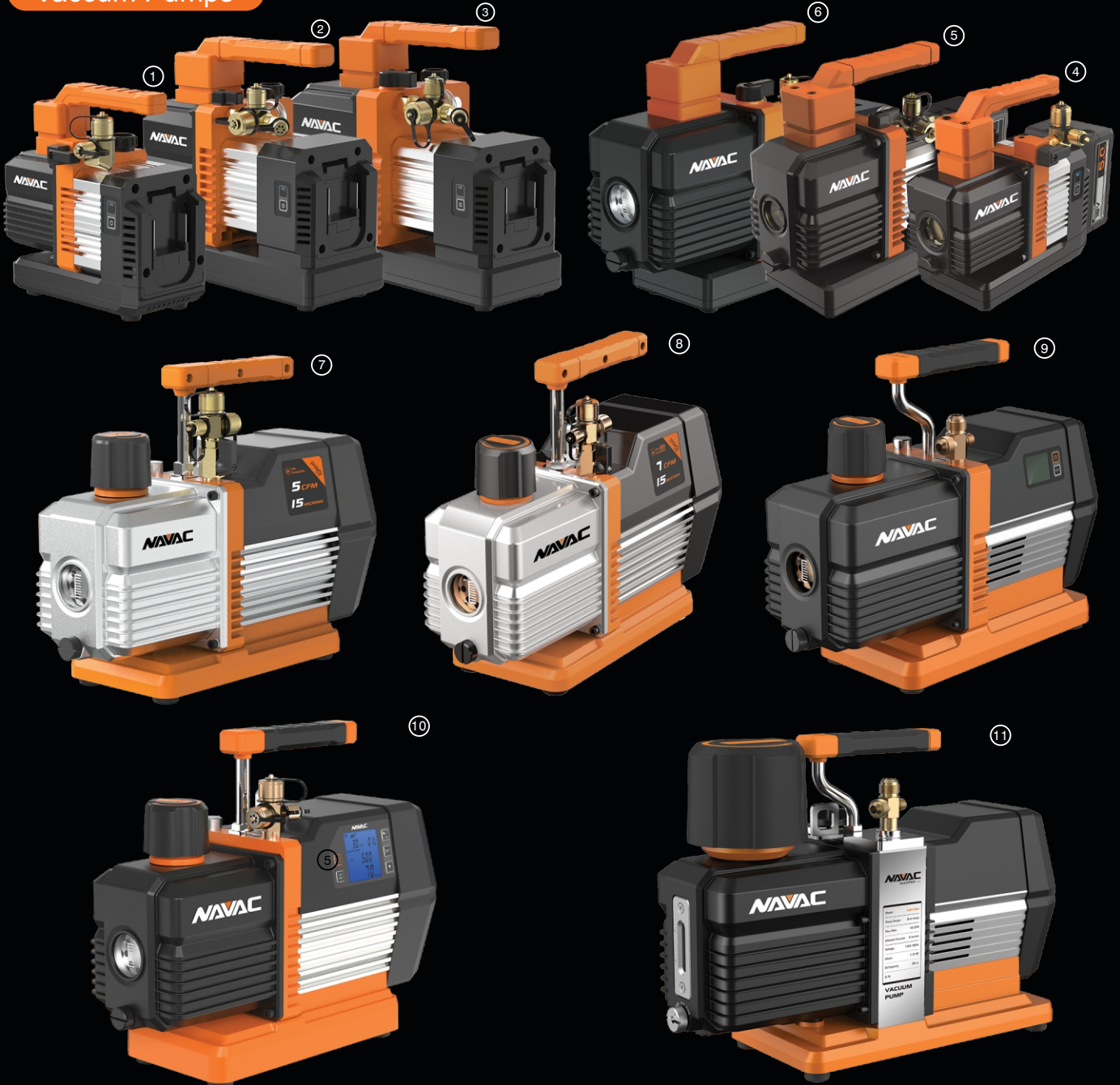
## Industry Changes

WE ARE READY FOR A2L, ARE YOU?



A2L  
Compatible

### Vaccum Pumps



No.	Model	Description	No.	Model	Description
1	NP2D	BreakFree Cordless Vacuum Pump No Battery, 2 CFM	7	NP5DP2	Vacuum Pump, 5 CFM, Pro Series,
2	NP4D	BreakFree Cordless Vacuum Pump No Battery, 4 CFM	8	NP7DP2	Vacuum Pump, 7 CFM, Pro Series,
3	NP6D	BreakFree Cordless Vacuum Pump No Battery, 6 CFM	9	NRP6Di & NRP8Di	Smart Vacuum Pump w/ Display, 6 & 8 CFM
4	NP2DLM	BreakFree Cordless Vacuum Pump, 2 CFM	10	NP8DS & NP8DSV	Smart Vacuum Pump w & w/o vacuum gauge, 8 CFM
5	NP4DLM	BreakFree Cordless Vacuum Pump, 4 CFM	11	NP12DM	Vacuum Pump, Industrial Grade, Master Series
6	NP6DLM	BreakFree Cordless Vacuum Pump, 6 CFM			



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### Recovery Units



### Manifold Gauges

\*For gauges, please refer to product details for compatible refrigerants.



No.	Model	Description	No.	Model	Description
1	NR7	Recovery Unit	7	N2A4C	Pro Plus Manifold Gauge, A2L (R-454B, 32, 22)
2	NRDD	Digital DC Recovery Unit	8	N4A4B	4-Valve Manifold Gauge, A2L (R-454B, 32, 410A, 22)
3	NRDC4M	4-Cylinder Recovery Unit	9	N2D72	Flex72 Manifold Gauge w/ Display, 72 Refrigerants
4	NMG12A	Pro Manifold Gauge, A2L (R-454B, 32, 410A, 22)	10	N2DX	Flex-X Manifold Gauge w/ HD Graphic Interface, 72 Refrigerants
5	NMG13A	Pro Manifold Gauge, A2L (R-32, 454B, 22)	11	NX1/NX1V	Nexus Digital Manifold Gauge w/wt Vacuum Gauge
6	N2A4B	Pro Plus Manifold Gauge, A2L (R-454B, 32, 410A, 22)	12	NX4/NX4V	Nexus Digital Manifold Gauge w/wt Vacuum Gauge , 4-Valve



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### Testing Tools & Instruments



### Hose & Accessory

### A3 Compatible



No.	Model	Description	No.	Model	Description
1	NSP1	Bluetooth Pressure Probe w/ Digital Display	6	NH5L	Refrigerant Hose, A2L Reverse Thread, 5'
2	NML1	Refrigerant Leak Detector, R32 & R454B Compatible	7	F2010	A2L Adaptor for NH5L, 1/4" LH FPT x 1/4" MPT
3	SK2TP1	Smart Refrigerant Diagnostics Kit	8	NRDDF	Digital DC Recovery Unit, A3 Compatible
4	SK3TPH1	Smart Refrigerant & Air Side Diagnostics Kit	9	NP7DPF	Vacuum Pump, 7 CFM, Pro Series, A3 Compatible
5	NSV1	Smart Refrigerant Valve, Bluetooth			





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## Special Tools Needed, Processes Unchanged

ASHRAE Standard 34 designates every refrigerant with a letter (A or B) and number (1, 2/2L, 3) to classify its toxicity and flammability. The letter represents the refrigerant's toxicity, with "A" representing low toxicity and "B" for high. The number refers to the refrigerant's flammability. A Class 1 refrigerant is a refrigerant with little to no flame propagation and a low risk of igniting under normal circumstances. Class 3 refrigerants indicate our most flammable refrigerants. ASHRAE recently added the subclass of **2L** to represent Class 2 refrigerants that are significantly slower to ignite or burn than other Class 2 gases. When a substance is exposed to spark or flame, many people assume it will behave like water or gasoline. In reality, there's huge grey area in between. It's in this grey area that we find A2L refrigerants. They're much less flammable, but can certainly ignite if several factors align at the same time.

Refrigerant Safety Groups	Lower Toxicity OEL > 400ppm	Higher Toxicity OEL < 400ppm
Highly Flammable	<b>A3</b> All Hydrocarbons	<b>B3</b>
Flammable HCFs, non-fluorocarbons	<b>A2</b> R-152a	<b>B2</b>
Less Flammable Low Burning Velocity HCFs, HFC/HFO Blends, HFOs	<b>A2L</b> R-32, R-452B, R-454B, R-455A, R-516A, R-1234yf, R-134ze	<b>B2L</b>
Little to No Flame Propagation HFCs, HFC/HFO Blends, HFOs, HCFOs, HFO/chloro-olefin blends, non-fluorocarbons	<b>A1</b> R410A, R-134a, R-744	<b>B1</b>

There is an inverse relationship between Global Warming Potential (GWP) and flammability. As the GWP goes down to acceptable levels, the flammability increases. Today for the residential and light commercial split or unitary markets, the GWP target is 750. The widely used R410A (A1 class) has a GWP of 2088, while R32 (A2L class) has a GWP of 675. Recent data shows that replacing R410A with R32 can help us avoid ~0.9°F of global warming by 2100. That's why we see an impending phasedown of HFCs, including R410A, and the inclusion of R32 or other A2L refrigerants in future equipment. EPA approved A2L refrigerants will bring us closest to being in line with the new GWP targets while having the least overall impact on installation, service and maintenance practices.

R32 and any flammable refrigerants **CANNOT** be used in any R22 or R410A refrigerant retrofit applications. If we look at the equipment coming off the assembly lines manufacturing A2L equipment, they are being designed at the factory to have the components already on board that mitigate the risks of A2L refrigerants, which we call "intrinsically safe". For A2L equipment best practices, always consult the manufacturers' literature before and during an installation for precise standards, requirements and considerations. **Always use tools that are rated for use with A2L refrigerants.**

**NAVAC**, the world's largest supplier of HVAC vacuum pumps in addition to a wide array of tools, gauges, charging machines, recovery units, and other industry-specific items, is one of the first manufacturers who offer a full line of A2L compatible tools.

