

About Us



Nema Winkelmann is a business unit of Winkelmann Group GmbH & Co. KG of Germany, one of the leading group of companies in metal forming industry.

Nema was established in 2002 and has been acquired by Winkelmann Heating+Water Division in 2007. Since 2009, Nema Winkelmann facilities are conveniently situated in Duzce Turkey and include a large-scale modern manufacturing plant with new cutting-edge technology.

Nema Winkelmann manufactures cylindrical expansion vessels for heating&cooling systems, sanitary water and pumping applications as well as flat expansion tanks for wall hung combi boilers. A wide variety of models are available from 6 up to 10.000 liters, with pressure ratings from PN6 to PN25.

In accordance with the ISO 9001:2008 Quality Management System, all processes have been streamlined with utmost attention to quality, hence customer satisfaction. All products are designed, manufactured and certified according to EN 13831 and PED 97/23/CE respectively.

Nema Winkelmann strives to be the leading supplier of expansion vessels by providing best value for customers all over the world through best-in-class products and service.

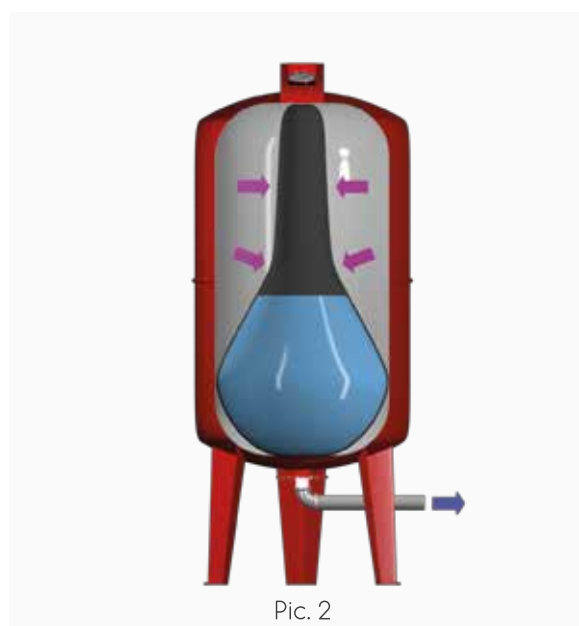
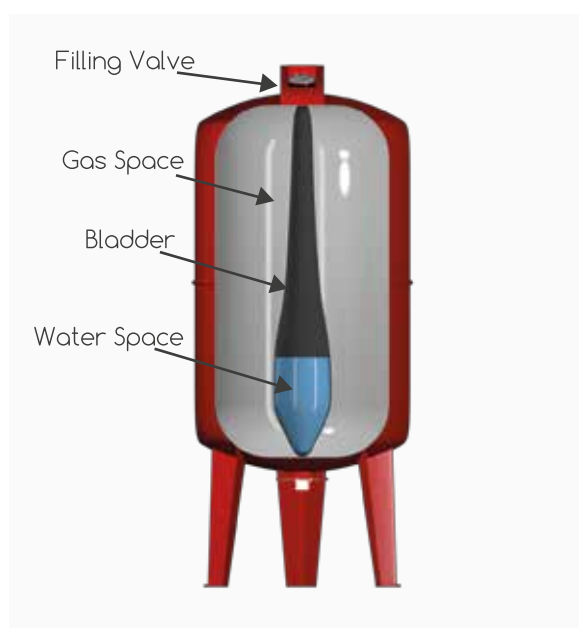


What is an Expansion Vessel?

The correct pressure is a prerequisite for the proper operation of heating, solar power and cooling water systems as well as pressure booster systems. It is essential to maintain water at a stable balance, compensate for variations in volume at regulated pressure and prevent gas separation and cavitation.

Expansion vessels offer a simple and intelligent solution here. They also act as ideal expansion vessels or buffer vessels without the need for electrical power, a compressor or a pump.

They have a simple construction. A bladder divides the vessel into a water space and gas space and prevents gas from diffusing into the water. The water space is connected to the external plant by the vessel connection. The static pressurised cushion of air in the gas space is set using a filling valve. Gas pressure is utilized to counter act against the changing water volume/pressure in the water space.

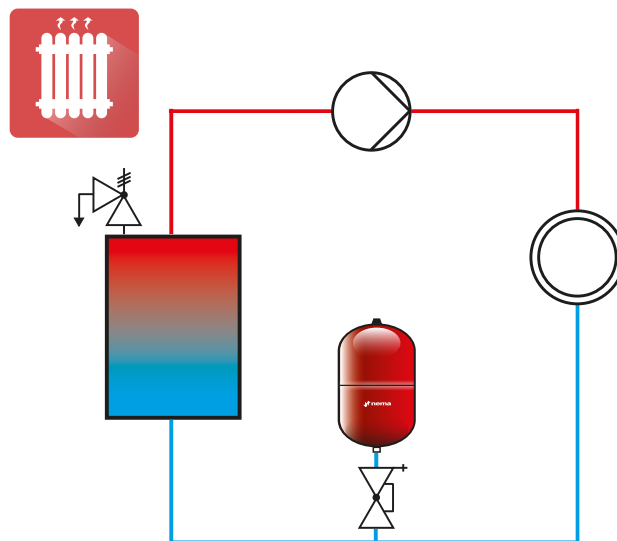


Applications and Working Principles

HVAC Applications

In closed heating-cooling systems, the water expands or contracts as the system is heated up or cooled down respectively. Expansion vessels are used to compensate for the fluctuations in volume between maximum and minimum temperature within a permissible range.

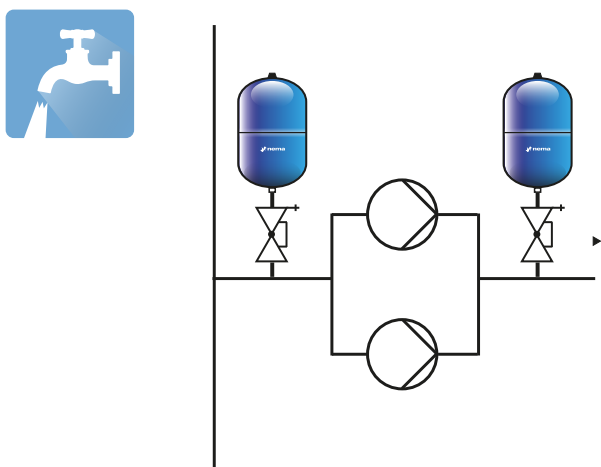
Nema expansion vessels are used to maintain pressure in heating, cooling and solar power systems. The pressurised cushion of gas supports the water column within the system and is set before a reserve of water is poured into the vessel. When the system heats up, the pressure rises with the result that expansion water flows from the external system into the water space (Pic. 1). The pressurised cushion of air in the gas space is compressed and the pressure rises. When the system cools down and its pressure drops, this counter pressure pushes water in the bladder back into the external system (Pic. 2). This releases the pressurised cushion of air in the gas space and lowers the pressure.



Water Supply Applications

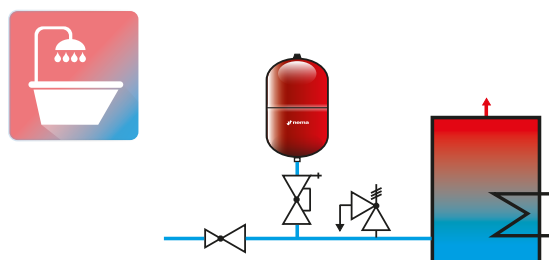
In booster systems, vessels are used as buffer tanks to intermediately store the difference between the pumped volume flow and the volume flow actually needed. Vessels are also required to decrease the switching frequency of a pump and reduce peak loads.

The pressurised cushion of air in the gas space is set approximately below the pump's switch-on pressure. When the pressure falls below the switch-on pressure, the pump switches on and pumps water. If consumers remove a relatively small volume of water, the difference in the buffer vessel is stored until the pressurised cushion of air on the switch-off side has compressed and the booster system has switched off (Pic. 1). When consumers take water, the interim water is taken from the buffer vessel (Pic. 2) until the pressurised cushion of air has fallen to the switch-on pressure and the booster system switches on again.



Sanitary Hot Water Applications

When heating sanitary water, pressure rises as the water expands. In the worst case the excess pressure is decreased by a safety valve, losing valuable heated potable water. The use of a Nema expansion vessel remedies this situation by preventing the unnecessary opening of the safety valve and providing for a more efficient, resource-conserving operation of the system.



Models and Article Codes

NEQ Horizontal



NEL Vertical



NEX Vertical, with feet



Article Code Example:

8.00008.01061010

Volume	Type	PN rating	Bladder	Colour *
00008	01	06	10	10
8-5000	01 : Vertical (NEX) 02 : Horizontal (NEQ) 03 : Vertical with feet (NEL) 04 : Sphere (NEL) 07 : Vertical with hanger	06 10 16 25	10 : EPDM, Air 11 : Butyl, Air 12 : EPDM, Nitrogen 13 : Butyl, Air	10 : Red 30 : Blue

* Other colours optional

Product Details

NEQ



- In accordance with 97/23/EC Pressure Equipment Directive and TS-EN 13831 standards
- Interchangeable bladder acc. to DIN 4807-3 norms, EPDM standard, Butyl optional
- Electrostatic Powder Coating
- Maximum working temperature for bladder: -10 / 70 °C
- Maximum temperature allowed : +110 °C (+70 °C for sanitary hot water applications)
- Suitable for Water and Water-Glycol mixtures (max. 50% glycol, Fluid group 2 acc. to 97/23/EC Directives)



24 lt



50 - 80 lt



100 lt

V (lt)	PN (Bar)	Type	Dia ϕ (mm)	L (mm)	c (M)	h (mm)	Weight (kg)	Pre-charge P. (Bar)
24	10	Horizontal	280	468	1"	154	4	2
50			410	498		225	9,5	
60			410	568		225	11,2	
80			480	641		260	13,8	
100			480	696		260	16	4

Product Details

NEL



- In accordance with 97/23/EC Pressure Equipment Directive and TS-EN 13831 standards
- Interchangeable bladder acc. to DIN 4807-3 norms, EPDM standard, Butyl optional
- Electrostatic Powder Coating
- Maximum working temperature for bladder: -10 / 70 °C
- Maximum temperature allowed : +110 °C (+70 °C for sanitary hot water applications)
- Suitable for Water and Water-Glycol mixtures (max. 50% glycol, Fluid group 2 acc. to 97/23/EC Directives)



19 lt



24 Sphere



35 lt

V (lt)	PN (Bar)	Type	Dia. Φ (mm)	H (mm)	c (M)	h (mm)	Weight (kg)	Pre-charge P. (Bar)
8	6	Vertical	220	280	1"	-	3,3	1,5
12			220	388		-	3,1	
19			280	418		-	3,9	
24			280	468		-	4	
35			354	438		-	6,1	
50			410	498		-	8,7	
60			410	568		-	9	
8	10	Vertical	220	280	1"	-	2,8	2
12			220	388		-	3,2	
19			280	418		-	3,8	
24			280	468		-	4	
35			354	438		-	7	
50			410	498		-	9	
60			410	568		-	9,7	
24 Sphere		Sphere	354	334		-	4	
8	16	Vertical	220	282	1"	-	6	2
12			220	390		-	7	
19			280	420		-	7,5	
24			280	470		-	7,7	
35			354	445		-	11	
50			380	590		-	13,2	
50			410	505		-	14	

Product Details

NEL



V (lt)	PN (Bar)	Type	Dia. ϕ (mm)	H (mm)	c (M)	h (mm)	Weight (kg)	Pre-charge P. (Bar)
8	25	Vertical	220	288	1"	-	8	4
12			220	396		-	9,7	
19			280	426		-	11	
24			280	476		-	13	
35			354	451		-	17	
50			380	596		-	21	
50			410	511		-	23	

Product Details

NEX



- In accordance with 97/23/EC Pressure Equipment Directive and TS-EN 13831 standards
- Interchangeable bladder acc. to DIN 4807-3 norms, EPDM standard, Butyl optional
- Electrostatic Powder Coating
- Maximum working temperature for bladder: -10 / 70 °C
- Maximum temperature allowed : +110 °C (+70 °C for sanitary hot water applications)
- Suitable for Water and Water-Glycol mixtures
(max. 50% glycol, Fluid group 2 acc. to 97/23/EC Directives)
- Manometer (100 liters and above)



50 - 80 lt

100 - 150 lt

200 - 500 lt

750 - 1000 lt

1500 - 5000 lt

V (lt)	PN (Bar)	Type	Dia. φ (mm)	H (mm)	c (M)	h (mm)	Weight(kg)	Pre-charge P. (Bar)
50	6	Vertical	410	608	1"	117	9,3	1,5
60			410	695		128	10,6	
80			480	788		165	13,1	
100			480	865		160	15	
150			480	1154		185	22	
200			634	994	1 1/4"	143	31	
250			634	1123		147	36	
300			634	1284		145	41	
400			740	1408		195	52	
500			740	1555		185	61	
600			740	1723	2"	191	92	
750			740	1925		184	98	
1000			800	2200		180	139	
50	10	Vertical	410	608	1"	117	11	2
60			410	695		128	12	
80			480	788		165	13,1	
100			480	865		160	15	
150			480	1154		185	22	
200			634	994	1 1/4"	143	31	4
250			634	1123		147	36	
300			634	1284		145	41	
400			740	1408		195	52	
500			740	1555		185	61	

Product Details

NEX



V (lt)	PN (Bar)	Type	Dia. ϕ (mm)	H (mm)	c (M)	h (mm)	Weight(kg)	Pre-charge P. (Bar)
750	10	Vertical	740	1925	2"	184	98	4
1000			848	2148		175	139	
1500			858	2240		200	230	
2000			1100	2381		285	370	
2500			1100	2665		285	450	
3000			1200	2675	2 1/2"	245	446	
4000			1450	3035	3"	265	655	
5000			1450	3590		260	830	
50	16	Vertical	380	731	1"	125	13,2	2
50			410	631		126	17	
60			380	831		125	15	
60			410	701		126	19	
80			425	1047		260	18	
80			480	796		164	26	
100			480	897		145	20	
150			508	1157		220	33	
200			634	968	1 1/4"	132	46	4
300			634	1285		138	60	
500			740	1564		188	85	
750			740	1890	2"	180	196	
1000			800	2140		185	224	
1500			958	2240		200	333	
2000			1100	2395		285	590	
2500			1100	2665		285	705	
3000			1200	2825	2 1/2"	245	820	
4000			1450	3035	3"	265	980	
5000			1450	3590		260	1200	
50	25	Vertical	380	706	1"	105	24	4
50			410	630		140	28	
60			380	806		113	26	
60			410	705		140	30	
80			425	930		160	36	
80			480	615		160	39	
100			450	912		164	43	
150			500	1078		173	56	
200			600	1120	1 1/4"	140	115	5
300			640	1248		130	127	
500			750	1502		195	172	
750			800	1914	2"	169	300	
1000			800	2150		175	330	
1500			958	2245		190	480	
2000			1100	2561		275	680	
2500			1100	2815		275	835	
3000			1200	2825	2 1/2"	245	990	
4000			1450	3035	3"	265	1200	
5000			1450	3590		260	1500	

Certification

ISO:9001



CE Modul B



CE Modul D



TSE



WRAS 8 - 200



WRAS



MARKA TESCİL



ACS



TSE HYYB



SSHYB



UKR



EAC





