MODELS AND ARTICLES2019

Expansion Vessels for HVAC, Water Supply and Sanitary Hot Water Applications







ABOUT US

WINKELMANN BUILDING + INDUSTRY: A STRONG ALLIANCE

Based in Ahlen in the German region of Westphalia and managed family-owned in the 4th generation, Winkelmannn Building+Industry is one of the three main business units of the Winkelmann Group. The company designs and manufactures products and components of the highest quality with maximum production efficiency at a total of 7 sites in locations including Germany, Turkey, Poland and China.

Thanks to in-house research and development, collaboration with research institutions and government standardisation bodies as well as the deployment of state-of-the-art production methods, the affiliated companies are among the most innovative in their sector. Our products and solutions for applications in heating, cooling, energy and plant engineering are worldwide known for their efficiency, performance and reliability.

Leading products, optimised processes and qualified employees provide the basis for satisfying our customers in the industry, in plant engineering, by wholesale trade as well as by installers.



A SMART CHOICE FOR HYDRAULIC APPLICATIONS

WRAS ERE CS CKWWA

Durable and reliable: As a manufacturer of high-quality diaphragm pressure expansion vessels, Nema Winkelmann is able to draw on the expertise and optimised processes of the Winkelmann Group. In its modern factory in the Turkish city of Düzce, the company produces a wide variety of high-performance pressure expansion vessels for heating and cooling systems, potable water and sanitary water systems as well as hot water storage systems.

Because Nema Winkelmann concentrates on what is really important, these products provide the perfect solutions to numerous challenges in building technology applications involving the supply and delivery of water. Our vessels meet the most stringent requirements not only with regards to quality and reliability but also in terms of increasing cost sensitivity and time pressure during installation and assembly.

In accordance to ISO ISO 9001:2015 Quality Management System, all processes have been streamlined with most attention to quality, hence customer satisfaction. All our products are designed, manufactured and certified according to EN 13831 and PED 2014/68/EU respectively.

FUNCTION PRINCIPLE OF EXPANSION VESSELS

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 an easy but intelligent solution. No external energy is needed, neither electrical power, a compressor or a pump. The construction of an expansion vessel is simple: A bladder divides the vessel into a water and a gas chamber and therefore prevents gas from diffusing into the water.

While the water chamber is linked to the system by a vessel connection, the correct pressure in the gas chamber is set by using a filling valve at the top of the expansion vessel. The gas pressure is needed to balance changing water volume or pressure differences.





CE MARKING AND DECLARATION OF CONFORMITY

CE marking is a part of the European Union's harmonisation legislation. It guarantees that products sold in the EEA have been assessed to meet high safety, health and environmental protection requirements.

Nema Winkelmann declares that all products meet the legal requirements for CE marking and can be sold throughout the EEA without restrictions.

SCOPE OF APPLICATIONS



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 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. When consumers take water, the interim water is taken from the buffer vessel 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.





HVAC Applications

In closed heating-cooling systems, the water expands or contracts as the system is heated up or cooled down. 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 and expansion water flows from the external system into the water space: the pressurised cushion of air in the gas space is compressed. When the system cools down and its pressure drops, this counter pressure pushes water from the membrane back into the system. This releases the pressurised cushion of air in the gas space.



MODEL RANGE



CHOOSE YOUR PRODUCT

We have three ranges available for your requirement/project: NEQ, NEL and NEX. Our products can be customised based on volume, type of installation, pressure requirement, the correct diaphragm and the colour of the vessel. Please use the structure outlined below to put together the order number for your selected product.

8.	00008	.01	06	1 0	1 0
	Volume	Туре	PN rating	Bladder	Colour
8.	00008	.01	06	1 0	1 0
	5-5,000 lt	01 Vertical 02 Horizontal (NEQ) 03 Vertical without feet (NEL) 04 Sphere (NEL) 07 Vertical with hanger	06 10 16 25	1 0 EPDM, Air 1 1 Butyl, Air 1 2 EPDM, Nitrogen 1 3 Butyl, Nitrogen	1 0 Red 3 0 Blue

ORDER PROCESS

We look forward to hearing from you and would be delighted to provide additional information or answer any questions you might have in relation to your purchase order:

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info@nema-winkelmann.com.tr	Yakabaşı Mah. Kocaalan Mevkii 81850 Gümüşova/Düzce TURKEY

PACKAGING TYPES

Α	carton box	80 x 120 cm pallet
В	carton box	100 x 220 cm pallet
C 1		68 x 101 cm pallet
C2	carton box	68 x 127 cm pallet
C3		74 x 156 cm pallet
D1		86 x 86 cm pallet
D2	bubble wrap	95 x 95 cm pallet
D3		110 x 110 cm pallet
E	bubble wrap	horizontal on pallet
F1		5 lt – 150 lt
F2	bulk method	200 lt – 500 lt
F3		600 lt – 5,000 lt





- In accordance to 2014/68/EU Pressure Equipment Directive and TS-EN 13831 standards
- Interchangeable bladder according to DIN 4807-3 norms, EPDM standard, Butyl optional
- Electrostatic Powder Coating
- Maximum working temperature for bladder: -10 °C 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 according to 2014/68/EU Directives)

PN	Art. No.		,	V (lt)	Dia Ø (mm)	H (mm)	L (mm)	h (mm)	C (G ISO 228-1)	Weight (kg)	Pre- charge (bar)	Std. Pack (pcs.)	
10	8.00024.0210 1	03	0	24	280	328	484	180	1"*	6.0	2	30 (A)	90 (B)
BAR	8.00050.0210			50	410	454	518	238		9.6		16 (A)	90 (B)
	8.00060.0210			60	410	454	588	238	1"	11.2		16 (A)	40 (B)**
	8.00080.0210			80	480	518	621	267		13.8	4	8 (A)	16 (B)
	8.00100.0210			100	480	518	699	267		16.1		8 (A)	16 (B)

* (Optional ³/₄")

** Pallet size: 120x220 cm





- In accordance to 2014/68/EU Pressure Equipment Directive and TS-EN 13831 standards
- Interchangeable bladder according to DIN 4807-3 norms, EPDM standard, Butyl optional
- Electrostatic Powder Coating
- Maximum working temperature for bladder: -10 °C 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 according to 2014/68/EU Directives)

PN	Art. No.	V (lt)	Dia Ø (mm)	H (mm)	h (mm)	C (G ISO 228-1)	Weight (kg)	Precharge (bar)	Std. (pc	Pack :s.)
6	8.00005.0106	5	220	233	-		2.5		120 (A)	N/A
BAR	8.00008.0106	8	220	296	-		2.9		80 (A)	N/A
	8.00012.0106	12	220	410	-	1"*	3.5		80 (A)	N/A
	8.00019.0106	19	280	434	_		4.4	- 2	36 (A)	90 (B)
	8.00024.0106	24	280	484	-		4.8		36 (A)	90 (B)
	8.00035.0306	35	354	465	-		5.8		22 (A)	90 (B)
	8.00050.0306	50	410	523	_	1"	7.8		15 (A)	90 (B)
	8.00060.0306	60	410	593	_		8.6		15 (A)	40 (B)**
10	8.00005.0110	5	220	233	_	1"*	2.5	2	120 (A)	N/A
BAR	8.00008.0110	8	220	296	-		2.4		80 (A)	N/A
	8.00012.0110	12	220	410	-		3.1		80 (A)	N/A
	8.00019.0110	19	280	434	_		4.0		36 (A)	90 (B)
	8.00024.0110	24	280	484	-		3.9		36 (A)	90 (B)
	8.00035.0310	35	354	465	-	1"	6.2		22 (A)	90 (B)
	8.00050.0310	50	410	523	-		8.7		15 (A)	90 (B)
	8.00060.0310	60	410	593	-		9.5		15 (A)	40 (B)**
	8.00024.0410	24 Sphere	354	353	-	1"	4.0	2	30 (A)	90 (B)**
16	8.00019.0116	19	280	434	-	1"	7.5	2	36 (A)	90 (B)
BAR	8.00024.0116	24	280	494	-		7.7	2	36 (A)	90 (B)
25	8.00019.0125	19	280	443	_	1"	11.0	2	36 (A)	90 (B)
BAR	8.00024.0125	24	280	496	_		13.0	2	36 (A)	90 (B)

* (Optional ³4")

** Pallet size: 120x220 cm





- In accordance to 2014/68/EU Pressure Equipment Directive and TS-EN 13831 standards
- Interchangeable bladder according to DIN 4807-3 norms, EPDM standard, Butyl optional
- Electrostatic Powder Coating
- Maximum working temperature for bladder: -10 °C 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 according to 2014/68/EU Directives)
- Manometer (100 liters and above)

PN	Art. No	V (lt)	Dia Ø (mm)	H (mm)	h (mm)	C (G ISO 228-1)	Weight (kg)	Precharge (bar)	Std. Pack (pcs.)		
6	8.00050.0106	50	410	650	130	1.	7.8		15 (A)	90 (B)	
BAR	8.00060.0106	60	410	721	130	I	8.6	Z	15 (A)	40 (B)*	
	8.00080.0106	80	480	791	170		12.2		8 (A)	16 (B)	
	8.00100.0106	100	480	924	170	1"	14.4		8 (A)	16 (B)	
	8.00140.0106	140	480	1,135	175		18.0		16 (B)		
	8.00200.0106	200	634	1,008	150		29.0		3 (0	3 (C1)	
	8.00250.0106	250	634	1,123	150		33.0		3 (C2)		
	8.00300.0106	300	634	1,296	150	1 ¼"	36.0	4	3 (C2)		
	8.00400.0106	400	740	1,428	210		52.0		3 (C3)		
	8.00500.0106	500	740	1,586	210		56.0 99.0		3 (C3)		
	8.00600.0106	600	848	1,585	188				1 (D1)		
	8.00750.0106	750	848	1,786	185	- 2"	106.0		1 (D1)		
	8.00800.0106	800	848	1,881	185	2	119.0		1 (D1)		
	8.01000.0106	1,000	848	2,186	185		156.0		1 (D)1)	
10	8.00050.0110	50	410	650	130	- 1"	9.4	2	15 (A)	90 (B)	
BAR	8.00060.0110	60	410	721	130		10.6	-	15 (A)	40 (B)*	
	8.00080.0110	80	480	791	170		13.1		8 (A)	16 (B)	
	8.00100.0110	100	480	924	170	1"	15.6		8 (A)	16 (B)	
	8.00140.0110	140	480	1,135	170		22.2		16 ((B)	
	8.00200.0110	200	634	1,008	150		31.9		3 (0	:1)	
	8.00250.0110	250	634	1,123	150	-	41.0		3 (0	2)	
	8.00300.0110	300	634	1,296	150	1 ¼"	41.0		3 (0	2)	
	8.00400.0110	400	740	1,428	210	-	65.0	4	3 (0	:3)	
	8.00500.0110	500	740	1,586	210		61.7		3 (0	3)	
	8.00600.0110	600	848	1,585	185		112.0		1 (D)1)	
	8.00750.0110	750	848	1,786	185		98.2		1 (D))	
	8.00800.0110	800	848	1,881	185	2"	138.0		1 (D	01)	
	8.01000.0110	1,000	848	2,187	185	-	139.7		1 (D	01)	
	8.01500.0110	1,500	1,500 958 2,480 190 230.0		230.0		1 (D2)				
	8.02000.0110	2,000	1,200	2,375	270	2 ½"	362.0		1 ([)3)	

* Pallet size: 120x220 cm

PN	Art. No.		V (It)	Dia Ø (mm)	H (mm)	h (mm)	C (G ISO 228-1)	Weight (kg)	Precharge (bar)	Std. I (pc	Pack s.)
10	8.02500.0110		2,500	1,200	2,750	230		450.0		1 (E)	
BAR	8.03000.0110		3,000	1,500	2,355	240	2 ½"	446.0		1 (E)	
2711	8.04000.0110		4,000	1,500	2,900	240		655.0	4	1 (E)	
	8.05000.0110		5,000	1,500	3,475	235	3"	830.0		1 (E)	
16	8.00050.0116		50	410	650	120		15.0	2	15 (A)	90 (B)
BAR	8.00080.0116		80	480	810	160	1"	22.0		8 (A)	16 (B)
	8.00100.0116		100	480	915	160		20.7		8 (A)	16 (B)
	8.00140.0116		140	480	1,135	165		31.0		16	(B)
	8.00200.0116		200	634	1,010	145		46.8		3 (C1)	
	8.00300.0116		300	634	1,298	145	1 ¼"	60.1		3 (C2)	
	8.00500.0116		500	800	1,480	185		156.0		3 (C3)	
	8.00750.0116		750	800	1,981	180		196.5		1 (D1)	
	8.01000.0116		1,000	850	2,355	180	0 "	224.2	4	1 (E	01)
	8.01500.0116		1,500	1,200	1,970	235		333.9		1 ([02)
	8.02000.0116		2,000	1,200	2,390	235		538.0		1 (D3)	03)
	8.02500.0116		2,500	1,200	2,810	225		705.0		1 (E)	
	8.03000.0116		3,000	1,500	2,378	235	2 ½"	820.0		1 (E)
	8.04000.0116		4,000	1,500	2,922	235		980.0		1 (E)	
	8.05000.0116		5,000	1,500	3,525	230	3"	1,200.0		1 (E)
25	8.00050.0125		50	380	755	110		28.0	4	15 (A)	90 (B)
BAR	8.00100.0125		100	500	888	188	1"	43.1		8 (A)	16 (B)
	8.00140.0125		140	500	1,140	175		56.2		16	(B)
	8.00200.0125		200	600	1,133	130		115.2		3 (C1)	
	8.00300.0125		300	640	1,395	190	1 ¼"	127.2		3 (0	2)
	8.00500.0125		500	800	1,480	185		172.9		3 (0	23)
	8.00750.0125		750	800	1,935	165		300.0		1 ([01)
	8.01000.0125		1,000	850	2,355	170	- 2"	330.0	5	1 ([01)
	8.01500.0125		1,500	1,200	1,970	205		480.0		1 ([02)
	8.02000.0125		2,000	1,200	2,370	205		680.0		1 ([)3)
	8.02500.0125		2,500	1,200	2,888	205	2 1/2"	835.0		1 (E)
	8.03000.0125		3,000	1,500	2,482	230	2 12	990.0		1 (E)
	8.04000.0125		4,000	1,500	2,977	230	- 3 "	1,200.0		1 (E)
	8.05000.0125		5,000	1,500	3,550	220		1,500.0		1 (

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