Buffer tanks from DEHOUST

Crucial components for the energy transition



DEHOUST ENERGY. HEAT. WATER.

Buffer tanks for heat and cold storage

DDEHOUST buffer storage for heating and cooling is a crucial component for the energy transition. Renewable energies and waste heat from industry, biomass and CHP plants are not always available when they are needed as heat. This is where our large-volume buffer storage tanks come into play. They ensure that heat is available exactly when it is needed.

Dehoust buffer storage tanks

- Correspond to Article 4 (3) of the Pressure Equipment Directive 2014/68/EU
- Are designed in accordance with AD 2000
- Proof of stability and verifiable structural analysis in accordance with AD 2000 for submission to the approval authorities upon request
- Earthquake and wind loads are taken into consideration in the offer
- Acceptance by a certified plant inspector



The charts on the following pages show a selection of our standard storage units.

More information available at www.dehoust.com, in the app and in the fact sheets.



Optimal stratification

With all DEHOUST storage tanks, the basis for optimal stratification is created by individually designed bend or distribution pipes. Additional features, such as perforated plates, allow the stratification to be maintained even under difficult conditions. A corresponding number of immersion sleeves forms the basis for monitoring the stratification during operation.

Full control

From the sensor to the transducer, the temperature measurement technology is adapted to the relevant system and installed at the factory. Integration into the building management system is extremely simple thanks to the ready-to-connect terminal box. Our standard is based on Pt100 cable sensors in a 3-wire circuit. But we are also happy to offer individual solutions depending on customer requirements.

Maximum energy yield

Our high-quality, factory-fitted thermal insulation ensures extremely low heat loss from the heat storage. Diffusion-tight cold insulation in the cold accumulator ensures the best results. Both types of storage meet the requirements for applying for BAFA funding in accordance with the German Combined Heat and Power Generation Act (KWKG).

We would, of course, be happy to provide you with the corresponding calculations.

Focus on individuality

DEHOUST storage tanks are manufactured on a project-specific basis in a modular system up to a volume of 250 m³ and are suitable for indoor, outdoor and underground installation. The number, position and size of all connections can be selected on a project-specific basis.

Cables can also be routed internally and externally, thus minimizing the amount of installation work on site.

We offer additional equipment, such as access ladders and platforms, on request.

A broad range of color-coated casing sheets also makes it easy to match the architectural environment.

Safety first

Factory-installed vacuum breakers prevent underpressure in the cylinder - a prerequisite for maximum safety and less installation work on site.

Large heat storage tanks up to 250 m³ above ground, vertical

The use of biomass, CHP plants and many industrial plants generate heat as a waste product, generally also with high temperatures. It is therefore possible to store this energy in large-volume stratified storage systems without any problems.

Our large heat storage tanks sustainably reduce comsumption of fossil resources in the industrial and commercial sectors. Whether local or district heating networks – large-volume buffer tanks from DEHOUST are designed for operating pressures of up to 6 bar as standard. We can engineer higher pressure levels on a project-specific basis.

Standard connections and scope of delivery:

- > 1x flange DN500 as manhole
- 4x flange with elbow pipe
- 1x Rp2" socket as drain
- 1x Rp1" socket as a vent
- ▶ 5x Rp1/2" socket for measuring technology
- Grounding lug, lifting eyes and type plate

Vertical above-ground heat storage tanks, operating pressure 6 bar

	without insulation					200 mm insulation	
Art. no	Nominal capacity, liters	Diameter mm	Height, approx. mm	Weight kg	Art. no.	Weight kg	
176020	10,000	1,600	6,490	1,750	170020	550	
176065	11,000	2,000	4,630	1,900	170065	500	
176085	17,000	2,000	6,630	2,450	170085	700	
176165	22,000	2,500	5,790	3,250	170165	800	
176175	32,000	2,500	7,790	4,000	170175	1,050	
176195	42,000	2,500	9,790	4,800	170195	1,300	
176215	52,000	2,500	11,790	5,600	170215	1,550	
176240	44,000	2,900	7,920	5,100	170240	1,300	
176245	51,000	2,900	8,920	5,500	170245	1,450	
176250	57,000	2,900	9,920	5,950	170250	1,600	
176260	70,000	2,900	11,920	7,000	170260	1,900	
176270	84,000	2,900	13,940	8,200	170270	2,200	
176280	96,000	2,900	15,940	9,350	170280	2,500	
176385	102,000	3,200	14,040	11,400	170385	2,450	
176395	118,000	3,200	16,040	12,700	170395	2,800	
176460	123,000	3,500	14,130	12,650	170460	2,700	
176465	133,000	3,500	15,130	13,700	170465	2,900	
176470	142,000	3,500	16,130	14,400	170470	3,050	
176475	152,000	3,500	17,130	15,100	170475	3,250	
176535	158,000	3,800	15,230	15,300	170535	3,150	
176540	169,000	3,800	16,230	16,050	170540	3,350	
176545	180,000	3,800	17,230	17,200	170545	3,550	
176550	191,000	3,800	18,230	18,100	170550	3,750	
176555	202,000	3,800	19,230	19,050	170555	3,950	

Buffer tanks up to 250 m³, other diameters up to 4,000 mm and insulation up to 400 mm as well as other pressure levels upon request.



Large heat storage tanks up to 250 m³ Above ground, horizontal

Optimal temperature stratification is not easy with horizontal storage tanks due to their limited height. Thanks to our project-specific design and use of distribution pipes for supply and extraction, we have successfully proven in numerous projects that efficient stratification and thus optimal operation is also possible.



Standard connections and scope of delivery:

- ▶ 1x flange DN500 as manhole
- > 2x flange with distributor pipe
- ▶ 1x Rp2" socket as drain
- 1x Rp1" socket as vent
- ▶ 5x Rp1/2" socket for measuring technology
- Grounding lug, lifting eyes and type plate

Horizontal above-ground heat storage tanks, operating pressure 6 bar

	without insulation				200 mm insulation	
Art. no	Nominal capacity liters	Diameter mm	Height approx. mm	Weight kg	Art. no.	Weight kg
117005	10,000	1,600	5,700	1,900	170020	550
117015	11,000	2,000	3,870	2,000	170065	500
117017	17,000	2,000	5,870	2,550	170085	700
117025	22,000	2,500	5,070	3,550	170165	800
117035	32,000	2,500	7,070	4,300	170175	1,050
117045	42,000	2,500	9,070	5,200	170195	1,300
117055	52,000	2,500	11,070	6,000	170215	1,550
117065	44,000	2,900	7,220	5,300	170240	1,250
117075	51,000	2,900	8,220	5,750	170245	1,450
117085	57,000	2,900	9,220	6,200	170250	1,600
117095	70,000	2,900	11,220	7,300	170260	1,900
117115	83,000	2,900	13,220	8,250	170269	2,200
117125	97,000	2,900	15,220	9,200	170285	2,500
117135	102,000	3,200	13,360	11,550	170385	2,450
117145	118,000	3,200	15,360	12,900	170395	2,800
117155	123,000	3,500	13,480	13,150	170460	2,700
117156	133,000	3,500	14,480	13,900	170465	2,900
117158	142,000	3,500	15,480	14,600	170470	3,050
117165	152,000	3,500	16,480	15,300	170475	3,250
117405	158,000	3,800	14,600	16,200	170535	3,150
117415	169,000	3,800	15,600	17,000	170540	3,350
117425	180,000	3,800	16,600	17,750	170545	3,550
117435	191,000	3,800	17,600	18,550	170550	3,750
117445	203,000	3,800	18,600	19,350	170560	3,950

Buffer tanks up to 250 m³, other diameters up to 4,000 mm and insulation up to 400 mm as well as other pressure levels upon request.

Large heat storage tanks up to 100 m³ Underground, horizontal

If the space available above ground is limited or too valuable, or if other restrictions make it difficult to install a buffer storage tank, underground storage tanks offer an interesting alternative.

Insulation of underground buffer tanks from DEHOUST consists of polyurethane (PUR) foam and a jacket made of glass fiber reinforced plastic (GRP). This combination ensures excellent insulation while at the same time protecting the buffer cylinder from moisture and groundwater in the soil.

The result is highly efficient heat storage tanks up to over 100,000 liters in volume, which can absorb excess heat and thus store the energy efficiently. The supply and return pipes are connected to the heating network through underground pipes, including district heating pipes.

Standard connections and scope of delivery:

1x shaft collar

- 1x flange DN500 as manhole
- 1x Rp2" socket as reserve
- 1x Rp1" socket as vent
- 3x Rp1/2" socket for measuring technology
- 2x KG pipe for flow and return
 2x flange with distributor pipe
- Grounding lug, lifting eyes and type plate



Horizontal underground heat storage tanks, operating pressure 6 bar

Including insulation 200 mm							
Art. no.	Nominal capacity liters	Diameter mm	Length approx. mm	Weight kg			
112017	10,000	2,400	4,000	2,650			
112037	20,000	2,400	7,300	4,400			
112047	30,000	2,400	10,600	6,050			
112057	40,000	2,900	9,100	6,400			
112067	50,000	2,900	11,100	7,650			
112077	60,000	3,300	10,100	9,400			
112087	80,000	3,300	13,200	11,950			
112097	100,000	3,300	16,200	14,400			

Other insulation thicknesses upon request.

Heat and solar buffer tanks up to 14 m³ Underground, vertical

Properly dimensioned heat buffer tanks need space. If there is not enough space in the building, the storage tank can also be positioned upright underground. The immersion sleeves for the temperature measurement technology are easily accessible directly below the shaft cover.

Vertical underground	heat storage	tanks, ope	rating pressur	e 3 bar
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inki. isolierung 200 mm							
Art. no	Nominal capacity liter	Diameter mm	Length approx. mm	Weight kg			
112206	2,050	1,700	2,500	650			
112212	3,100	1,700	3,300	850			
112222	6,300	2,200	3,500	1,250			
112232	9,800	2,700	3,400	1,600			
112242	14,200	3,200	3,500	2,500			

Also available with 100 mm insulation upon request.

Standard connections and scope of delivery:

- > 1x KG pipe as inspection shaft
 - 1x Rp1" socket as vent
 - 3x Rp1/2" socket for measuring technology
- Lifting eye and type plate
- > 1x KG pipe for flow and return
- 2x pipe socket with elbow pipe



Up to 10 m³ – above ground, vertical

DEHOUST heat buffer cylinders with up to 10,000 liters do not necessarily require an access dome or manhole. This reduces material costs, making these heat buffer cylinders even more economical.

The storage tanks are designed for an operating pressure of up to 6 bar and are delivered without fitted insulation. We supply fleece insulation, which is then applied on site. You can find a detailed description on our website..

Above-ground heat storage tanks operating pressure 6 bar

without insulation					insulation 100 mm	
Art. no.	Nominal capacity liter	Diameter mm	Height approx. mm	Weight kg	Art. no.	Weight kg
176905	2,050	1,200	2,250	440	170904	40
176910	2,600	1,200	2,750	500	170909	45
176915	3,150	1,200	3,250	565	170914	50
176920	3,700	1,200	3,750	620	170919	60
176925	4,250	1,200	4,250	685	170924	65
176930	4,800	1,200	4,750	745	170929	70
176960	5,150	1,400	3,850	795	170959	70
176965	5,950	1,400	4,350	865	170964	75
176970	6,700	1,400	4,850	935	170969	85
176975	7,450	1,400	5,350	1,005	170974	90
176980	8,200	1,400	5,850	1,075	170979	100
176985	8,950	1,400	6,350	1,150	170984	105
176990	9,750	1,400	6,850	1,225	170989	115



Standard connections and scope of delivery:

- ▶ 4x Rp2" socket with elbow pipe
- > 1x Rp2" socket as drain
- 1x Rp1" socket as vent
- 4x Rp1/2" socket for measuring technology
- Earthing lug, lifting eye and type plate

Large cold storage up to 250 m³

Cooling is not only required for air conditioning in buildings, but also for a number of different industrial processes. Because cooling needs are often quite variable, they place substantial demands on the installed cooling systems. The solution is optimally designed cold accumulators from DEHOUST, which extend the service life of refrigeration systems and thus increase energy efficiency.

With DEHOUST cold storage tanks, the electrical load peak is reduced, the security of supply is increased and the degree of utilization is improved.

Diffusion-tight cold insulation retains heat and protects the cylinder from the formation of condensation on the surface.

Standard connections and scope of delivery:

- > 1x flange DN500 as manhole
- 4x flange with elbow pipe
- 1x Rp2" socket as drain
- ▶ 1x Rp1" socket as vent
- ▶ 5x Rp1/2" socket for measuring technology
- Grounding lug, lifting eyes and type plate

Vertical above-ground heat storage tanks, operating pressure 6 bar

	without insulation					insulation 32 mm	
Art. no.	Nominal capacity liter	Diameter mm	Height approx. mm	Weight kg	Art. no.	Weight kg	
179020	10,000	1,600	6,390	1,700	171020	150	
179065	11,000	2,000	4,530	1,850	171065	150	
179085	17,000	2,000	6,530	2,400	171085	200	
179165	22,000	2,500	5,690	2,950	171165	200	
179175	32,000	2,500	7,690	3,600	171175	300	
179195	42,000	2,500	9,690	4,300	171195	350	
179215	52,000	2,500	11,690	4,950	171215	450	
179240	44,000	2,900	7,820	5,050	171240	400	
179245	51,000	2,900	8,820	5,500	171245	450	
179250	57,000	2,900	9,820	5,950	171250	500	
179260	70,000	2,900	11,820	6,950	171260	550	
179270	84,000	2,900	13,840	8,200	171270	650	
179285	97,000	2,900	15,840	9,050	171285	750	
179385	102,000	3,200	13,940	11,400	171385	700	
179395	118,000	3,200	15,940	12,700	171395	800	
179460	123,000	3,500	14,030	12,750	171460	800	
179465	133,000	3,500	15,030	13,800	171465	850	
179470	142,000	3,500	16,030	14,500	171470	900	
179475	152,000	3,500	17,030	15,200	171475	950	
179535	158,000	3,800	15,130	15,400	171535	950	
179540	169,000	3,800	16,130	16,150	171540	1,000	
179545	180,000	3,800	17,130	16,950	171545	1,050	
179546	192,000	3,800	18,130	17,700	171546	1,100	
179555	203,000	3,800	19,130	18,450	171555	1,150	

Buffer tanks up to 250 m³, other diameters up to 4,000 mm and insulation up to 400 mm as well as other pressure levels upon request.



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The country-specific approvals and installation regulations must be complied with.

www.dehoust.com