Climate
Control

IMI Pneumatex

Aquapresso

稳压罐
饮用水的稳压

Breakthrough
engineering for
a better world

Aquapresso

膨胀罐带固定气囊，适用于饮用水系统。密封丁基橡胶囊用特种丁基橡胶制成，适用于饮用水，享誉盛名。配套全流通特性，该膨胀罐成为独有的卫生标准。

关键特性

Airproof butyl bag according to EN 13831

Wide range of vessel sizes for different system needs
From 8 L to 3000 L

Brilliantly simple, robust design
Operation without auxiliary power.

Excellent elasticity
Thanks to the fixed gas cushion.

技术说明

应用:
饮用水加热系统、增压系统，最高氯化物含量125 mg/l (70 ° C)、250 mg/l (45 ° C)。

压力:
最小允许压力，PSmin：0 bar
最大允许压力，PS：参考产品
定压限值（p0），出厂设置：4 bar

温度:
最高允许温度，TS：120 ° C
最小允许温度，TSmin：-10 ° C
最高允许囊温度，TB：70 ° C
最小允许囊温度，TBmin：5 ° C

材质:
钢。彩色铍。
所有与水接触的金属部件采用不锈钢材质。

运输和储存:
无霜，干燥环境

标准:
按照欧盟压力设备标准PED 2014/68/EU制造
需遵循地方饮用水法规。

功能、设备配置及特点

- 密封丁基橡胶囊，根据EN 13831和IMI Pneumatex内部标准。
- 密封丁基橡胶囊，根据EN 13831和IMI Pneumatex可更换的内部标准（AG）。
- 水力监测囊的密封性控制（ADF，AUF）。
- Flowfresh完全流通（ADF，AUF）。
- 内部检查用内镜检查孔（AU，AUF），内部检查用的两个法兰开孔（AG）。
- 直立安装和运输方便用的窦环（AU，AUF）。直立安装用支脚（AG）。便于装配用壁上托架（AD，ADF）。

Aquapresso in potable hot water systems

green = OK
red = bag damage
By temporarily storing expansion water that would otherwise be lost through the safety valve, the Aquapresso contributes to reduced water usage in potable hot water systems. Correct pressure presets are key for a faultless and reliable operation.

Approvals

Aquapresso is designed for potable water systems. Since there are no uniform standards, always observe local regulations regarding selection, based on which either full or no flow-through flowfresh models may be deployed.

计算

Preset pressure
p0 = pa– 0,3 bar
The preset pressure of the Aquapresso is set to at least 0,3 bar below the initial pressure pa

Initial pressure
pa= p_{FL}
The initial pressure corresponds to the flow presure p_{FL}. It should be kept at a constant level by means of the installation of a pressure regulating valve in the cold water line.

表1: e膨胀系数

t (TAZ, ts_{max}, tr, ts_{min}), ° C		20	30	40	50	60	70	80	90	100	105	110
e 水	= 0 ° C	0,0016	0,0041	0,0077	0,0119	0,0169	0,0226	0,0288	0,0357	0,0433	0,0472	0,0513

Safety valve
The non–operative pressure pR in the potable water network must not exceed 80% of the safety valve response pressure.

$$psv = \frac{pR}{0,8}$$

Nominal volume
Vhs is the nominal volume of the potable water heater.
e (60 ° C, table 1)

$$VN = Vhs \cdot e \cdot \frac{(psv + 0,5)\cdot(p0 + 1,3)}{(p0 + 1)\cdot(psv - p0 - 0,8)}$$

快速选型

Heating–up from 10° C to 60° C

	p0 4,0 bar | pa 4,3 bar				p0 3,0 bar | pa 3,3 bar			
psv [bar]	6	7	8	10	6	7	8	10
Vhs [liter]	Nominal volume VN [liter]				Nominal volume VN [liter]			
50	8	8	8	8	8	8	8	8
80	8	8	8	8	8	8	8	8
100	12	8	8	8	8	8	8	8
150	18	12	8	8	8	8	8	8
180	18	12	12	8	8	8	8	8
200	25	12	12	8	12	8	8	8
250	25	18	12	12	12	12	8	8
300	35	18	18	12	18	12	12	12
400	50	25	25	18	18	18	12	18
500	50	35	25	25	25	18	18	25
600	80	50	35	25	35	25	18	25
700	80	50	35	35	35	25	25	25
800	80	50	50	35	35	35	25	25
900	140	80	50	35	50	35	35	35
1000	140	80	50	50	50	35	35	35

Example
Vhs = 200 litre
pa = 3,3 bar
psv = 10 bar

Selected:
Aquapresso ADF 8.10 with full flow–through
p0 = 3 bar
Reduce the default pressure preset from 4 bar to 3 bar!

Aquapresso in pressure–boosting systems

In pressure–boosting systems the Aquapresso can stabilise the potable water network and reduce the switching frequency. May be installed at either the low or high pressure sides of the system. Installation of an Aquapresso on the mains is always to be coordinated with local water utilities.

Aquapresso A...F with bypass

For the flow–through Aquapresso models A...F, if the maximum flow q_{max} exceeds the nominal flow qN the device must be installed with a bypass. The bypass is to be dimensioned for the flow difference with a flow speed of 2 m/s. See Application example or instruction.

计算

Aquapresso on the suction side
Calculation according to 1988 T5

q_{max} | m³/h	VN | litre	qN Nominal flow
⩽ 7	⩾ 300	according to Datasheet
< 7 ⩽ 15	⩾ 500	
> 15	⩾ 800	

s Switching frequency | 1/h	Pump capacity | kW
20	⩽ 4,0
15	⩽ 7,5
10	> 7,5

Aquapresso for water hammering absorption
This topic is very complex and complicated. We recommend to have the calculation done by a specialized engineering office.

Aquapresso on the discharge side
VN calculation according to DIN 1988 T5 for the restriction of the switching frequency

$$VN = 0{,}33 \cdot q_{max} \cdot \frac{pa + 1}{(pa - pe) \cdot s \cdot n}$$

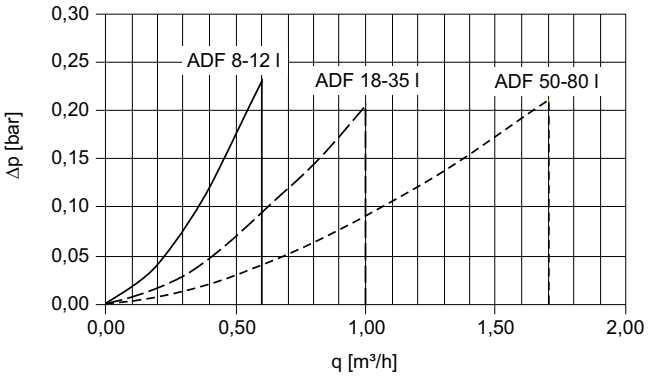
VN calculation by storage volume V between working pressure and turn-off pressure

$$VN = q \cdot \frac{(pe + 1) \cdot (pa + 1)}{(p0 + 1) \cdot (pa - pe}$$

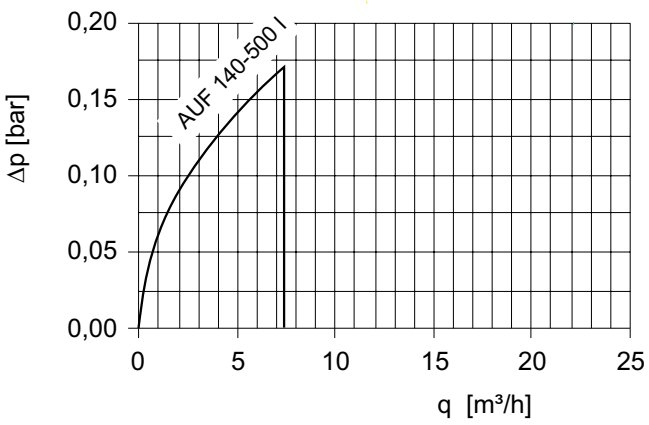
n = Number of pumps
pe= Working pressure
pa= Turn-off pressure
q_{max} = flow pump

图

计算压力损失DP — Aquapresso ADF

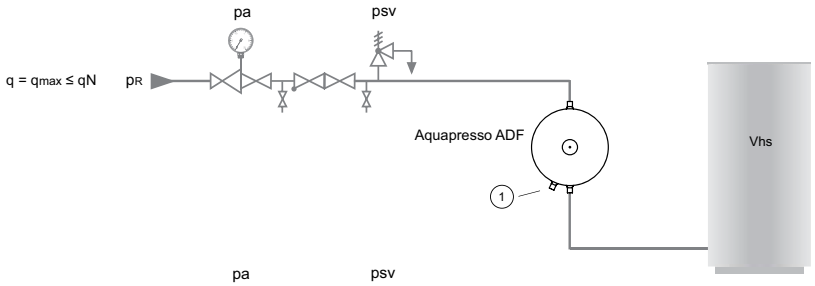


计算压力损失DP — Aquapresso AUF

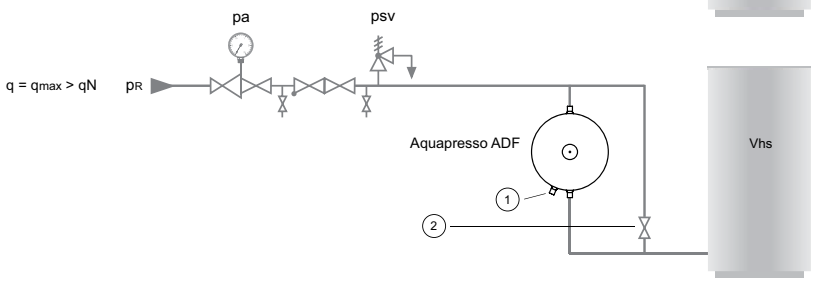


应用举例

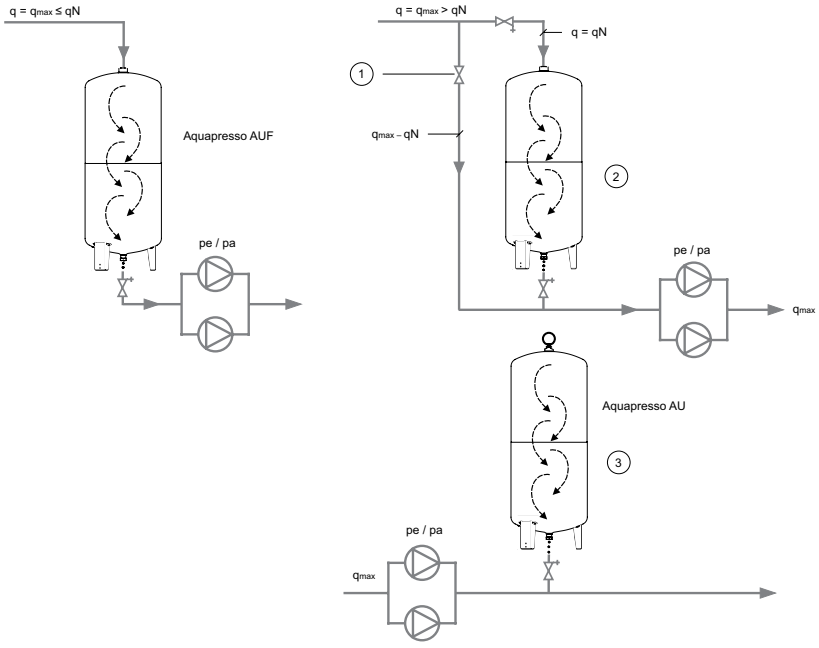
Aquapresso ADF
with flowfresh full flow-through in a potable water heating system
（可能需要改变以满足当地标准要求）



Aquapresso ADF
Flow through from top or bottom.
1. Hydrowatch
2. Bypass open, remove handwheel



Aquapresso AUF/AU
in a pressure-boosting system
（可能需要改变以满足当地标准要求）

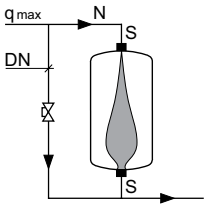


Aquapresso AUF
at the low side; flow-through from the top to the bottom

Aquapresso AU
at the high pressure side; no flow-through

1. Bypass open, remove handwheel
2. p0 at least 0,5 bar below the minimum supply pressure
3. p0 = 0,9 working pressure of the peak load pump, at least 0,5 bar below the working pressure

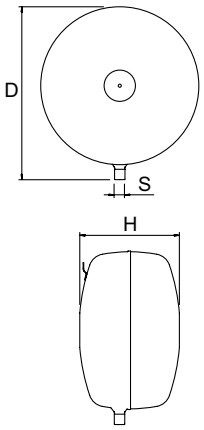
Aquapresso A...F
DN bypass with q_{max}



qmax | m³/h	0,6	1,0	1,7	3,0	7,3	11,5	15,0	19,5	25,0	31,0	40,0	50,0
	DN Bypass											
ADF 8–12		•	•	•	•	•	•	•	•	•	•	•
ADF 18–35			•	•	•	•	•	•	•	•	•	•
ADF 50–80				15	25	•	•	•	•	•	•	•
AUF 140–500						25	32	•	•	•	•	•

Aquapresso with higher flow-through recommended
q ⩽ qN no bypass required

产品规格

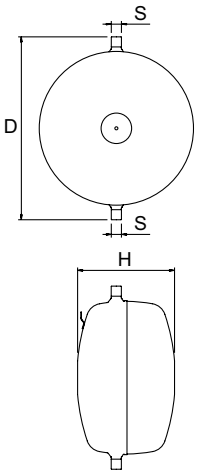


Aquapresso AD

铁饼状。
底部连接安装。

类型	VN [l]	D	H**	m [kg]	S	产品编号
10 bar (PS)						
AD 8.10	8	314	166	3,8	R1/2	711 1000
AD 12.10	12	352	201	5,1	R1/2	711 1001
AD 18.10	18	393	224	6,5	R3/4	711 1002
AD 25.10	25	436	251	8,2	R3/4	711 1003
AD 35.10	35	485	280	10,1	R3/4	711 1004
AD 50.10	50	536	317	12,6	R1	711 1005
AD 80.10	80	636	347	16,9	R1	711 1006

VN=标称容积
**) 误差0 /+35

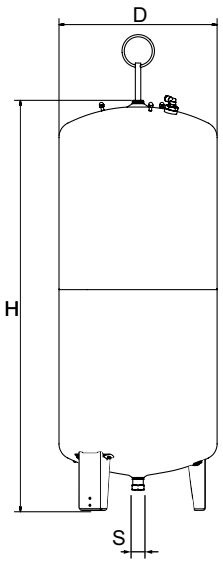


Aquapresso ADF

铁饼状。
底部连接安装。
Flowfresh完全流通。

类型	VN [l]	D	H**	m [kg]	S	qN [m³/h]	产品编号
10 bar (PS)							
ADF 8.10	8	345	166	4	2x R1/2	0,6	711 2000
ADF 12.10	12	386	201	5,3	2x R1/2	0,6	711 2001
ADF 18.10	18	430	224	6,6	2x R3/4	1,0	711 2002
ADF 25.10	25	472	251	8,5	2x R3/4	1,0	711 2003
ADF 35.10	35	521	280	10,4	2x R3/4	1,0	711 2004
ADF 50.10	50	587	317	13	2x R1	1,7	711 2005
ADF 80.10	80	687	347	17,4	2x R1	1,7	711 2006

VN=标称容积
**) 误差0 /+35

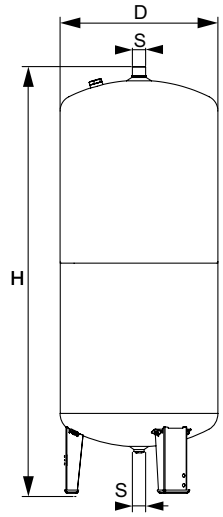


Aquapresso AU

细长，圆柱型。

类型	VN [l]	D	H	H***	m [kg]	S	产品编号
10 bar (PS)							
AU 140.10	140	420	1274	1523	33	R1 1/4	711 1007
AU 200.10	200	500	1330	1566	41	R1 1/4	711 1008
AU 300.10	300	560	1451	1694	60	R1 1/4	711 1009
AU 400.10	400	620	1499	1761	70	R1 1/4	711 1010
AU 500.10	500	680	1588	1859	90	R1 1/4	711 1011
AU 600.10	600	740	1596	1872	108	R1 1/4	711 1012

VN=标称容积
***) 容器倾斜时的最大高度 , 误差0 /−100

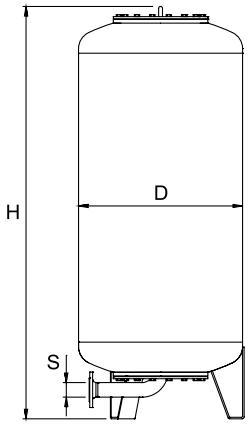


Aquapresso AUF

细长，圆柱型。
Flowfresh完全流通。

类型	VN [l]	D	H	H***	m [kg]	S	qN [m³/h]	产品编号
10 bar (PS)								
AUF 140.10	140	420	1274	1562	34	2x R1 1/4	7,3	711 2007
AUF 200.10	200	500	1330	1577	42	2x R1 1/4	7,3	711 2008
AUF 300.10	300	560	1451	1711	61	2x R1 1/4	7,3	711 2009
AUF 400.10	400	620	1499	1773	71	2x R1 1/4	7,3	711 2010
AUF 500.10	500	680	1588	1870	91	2x R1 1/4	7,3	711 2011

VN=标称容积
***) 容器倾斜时的最大高度 , 误差0 /−100



Aquapresso AG

细长，圆柱型。

类型	VN [l]	D	H**	H***	m [kg]	S EN 1092−1	产品编号
10 bar (PS)							
AG 700.10	700	750	1901	1936	250	DN 50	711 1013
AG 1000.10	1000	850	2070	2126	340	DN 65	711 1014
AG 1500.10	1500	1016	2253	2328	460	DN 65	711 1015
AG 2000.10	2000	1016	2773	2826	760	DN 80	711 1020
AG 3000.10	3000	1300	2871	2955	920	DN 80	711 1017
16 bar (PS)							
AG 300.16	300	500	1824	1839	180	DN 50	711 3000
AG 500.16	500	650	1879	1906	250	DN 50	711 3001
AG 1000.16	1000	850	2103	2159	390	DN 65	711 3003
AG 1500.16	1500	1016	2256	2331	520	DN 65	711 3004
AG 2000.16	2000	1016	2792	2845	840	DN 80	711 3009
AG 3000.16	3000	1300	2898	2982	1000	DN 80	711 3006

VN=标称容积
***) 容器倾斜时的最大高度 , 误差0 /−100

Technical description – Pre-pressure measuring gauge

Applications:
Heating, solar and cooling water systems.
Deployment in systems according to EN 12828, SWKI HE301-01.

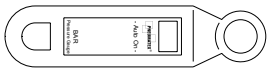
Functions:
Control of the pre-pressure at expansion vessels. Auto on/off. Automatic calibration.

Pressure:
Min. admissible pressure, PSmin: 0 bar
Max. admissible pressure, PS: 10 bar

Temperature:
Max. admissible temperature, TS: 120 ° C
Min. admissible temperature, TSmin: -10 ° C

Material:
Rugged plastic housing.

产品规格



Pre-pressure measuring gauge DME

Type	PS [bar]	m [kg]	Article No
DME	10	0,3	500 1048

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