

DIN EN 12309-7:2015-03 (E)

Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW - Part 7: Specific provisions for hybrid appliances

Contents		Page
Foreword		3
1	Scope	5
1.1	Scope of EN 12309	5
1.2	Scope of this Part 7 of EN 12309	5
2	Normative references	6
3	Terms and definitions	6
4	Test conditions	6
4.1	General	6
4.2	Inlet temperatures of the indoor heat exchanger	8
4.3	Inlet temperatures into the outdoor heat exchanger	9
4.3.1	Air to water hybrid heating appliance	9
4.3.2	Ground water sourced hybrid heating appliances	10
4.3.3	Ground heat sourced hybrid heating appliances	10
4.3.4	Solar sourced hybrid heating appliances	10
5	Calculation of the seasonal performance in the heating mode	11
6	Standard rating conditions of gas driven sorption heat pump based hybrid heating appliances	11
Annex A (informative)	Estimation of the heating fluid inlet and outlet temperature into/out of the indoor heat exchanger	14
Annex B (informative)	Inlet temperature into the outdoor heat exchanger for ground heat sourced sorption heat pump based hybrid heating appliances	15
Annex C (informative)	Inlet temperature into the outdoor heat exchanger for solar sourced sorption heat pump based hybrid heating appliances	17
Annex D (informative)	Inlet temperature of the outdoor heat exchanger for solar collector assisted sorption heat pump based hybrid heating appliances	18
D.1	Introduction	18
D.2	Solar-assisted ground sourced gas-driven sorption heat pumps	18
D.3	Solar-assisted air sourced gas-driven sorption heat pumps	18
Annex E (informative)	Calculation of the seasonal gas utilization efficiency with partial heat demand coverage by the applied solar collectors	19
Annex F (informative)	Estimation of the seasonal performance of hybrid heating appliances at building design loads deviating from the appliance's nominal heating capacity	20
Annex G (normative)	Calculation of the seasonal space heating energy efficiency for hybrid gas-driven sorption heat pump based heating appliances	21
Annex ZA (informative)	Relationship between this European Standard and the requirements of Commission Regulation (EC) No 813/2013	24

Annex ZB (informative) Relationship between this European Standard and the requirements of Commission Regulation (EC) No 811/2013	25
Bibliography	26