

## FLASH CONDENSING HEADS FCD

### DESCRIPTION AND OPERATION

The ADCATherm flash condensing heads are designed to promote energy efficiency on new or existing systems.

Mixing the flash steam with the boiler make-up water allows the energy within the flash steam to be fully absorbed into the water and therefore reduces energy waste that normally occurs from the discharge of flash steam through a vent.

The main advantages over some traditional systems are that it is possible to make most of the piping connections in a single and compact mixing unit and a greater heat recovery efficiency can be achieved.

This mixing unit includes the following fluid connections:

- Cold make-up water;
- Condensate return;
- Re-circulating feedwater;
- Vacuum breaker and vent connection;
- Optional connections for flash steam from a TDS (Total Dissolved Solids) heat recovery system.

The mixing unit includes the necessary baffles, spray nozzle, water injector pipe, etc., in order to guarantee the high mixing energy efficiency. The water is finally mixed in the vessel as it passes through an immersion tube, which ensures a quiet operation.

The feedwater is re-circulated using a low power re-circulating pump which will improve thermal efficiency by reducing the temperature stratification.

Additional equipment can be used to improve energy efficiency and accurate control. ADCATrol control valves, steam injectors, exhaust heads and many other items are available from an ADCA supplier.

Since each plant has particular requirements we suggest that a local ADCA distributor is contacted for layout discussion and equipment selection.

### MAIN FEATURES

- Prevents energy wasting.
- Easy to install.
- Stainless steel construction.
- Reduces the flow of flash steam from the vessel venting pipe.

**OPTIONS:** Complete system including all the necessary equipment.

**USE:** On boiler water feed tanks.

**AVAILABLE MODELS:** FCD150, 200, 250, 300 and 400.

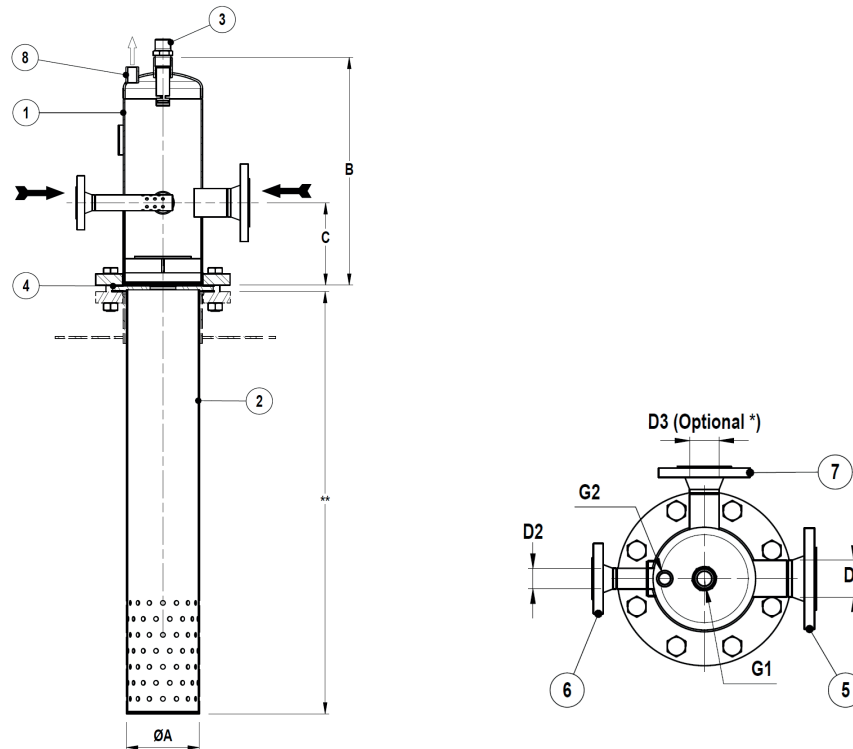
**CONNECTIONS:** Female threaded ISO 7 Rp or NPT.  
 Flanged EN 1092-1 or ASME.  
 Different connections on request.

**INSTALLATION:** Vertical installation, on the top of the vessel.  
 Connections according to the supplied drawing.



LIMITING CONDITIONS	
PS – Maximum allowable pressure	0,5 bar
TS – Maximum allowable temperature	120 °C

Minimum operating temperature: -10 °C;  
 Design code: AD-Merkblatt.  
 Remark: other conditions and CE marking on request.



DIMENSIONS (mm)										
MODEL	A	B	C	D1	D2	D3 *	E **	G1	G2	WEIGHT (kg)
FCD150	155	484	175	50	25	40	195	1"	1/2"	***
FCD200	205	522	200	80	32	50	195	1"	1/2"	***
FCD250	255	557	220	100	50	80	195	1"	1/2"	***
FCD300	300	617	250	100/150	65	100	195	1"	1/2"	***
FCD400	400	680	290	150	80	100	195	1"	1/2"	***

\* Optional; \*\* Dimensions on request (standard; 950, 1200, 1600, 2100 mm); \*\*\* Weight to be confirmed.

SELECTION TABLE					
MAX. STEAM GENERATION (kg/h)	5000	10000	20000	30000	50000
MODEL	FCD150	FCD200	FCD250	FCD300	FCD400

Length of the immersion tube to be defined according to the vessel design.

MATERIALS		
POS. N°	DESIGNATION	MATERIAL
1	Mixing unit	Stainless steel
2	Immersion tube	Stainless steel
3	Spray nozzle	Stainless steel
4	Gaskets	C 4430
5	Condensate return	Stainless steel
6	Coldwater make-up	Stainless steel
7	Flash steam (option)	Stainless steel
8	Air vent connection	Stainless steel
8	Vacuum breaker conn.	Stainless steel

Remarks: Flange and pipe for vessel connection not included.