Steam Flow

INDUSTRIAL STEAM

Pressurized and Atmospheric Deaerators

Steam Flow Deaerator
Pressurized .005 cc/liter

CONSTANT RECYCLING guarantees deaeration of all dissolved oxygen in excess of .005 cc/liter from 0% to 100% of deaerator capacity.

industrialsteam.com

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When to use

100% Makeup 0% condensate	Yes
30% Makeup 70% condensate	Yes
High Pressure condensate returns	Yes
100% Turndown	Yes
Load Swings	Yes

FFEATURES

CONSTANT RECYCLING guarantees deaeration of all dissolved oxygen in excess of .005 cc/liter from 0% to 100% of deaerator capacity.

ELECTRONIC INSTRUMENTATION FOR MODULATING LEVEL
includes a HART compatible differential pressure transmitter, PID controller, and motorized control valve.

SEPARATE DEAERATING & MIXING SECTIONS offer a two stage continuous cycle which provides .005 cc/l deaerated water during all load conditions regardless of surges from the system.

ONLY STAINLESS STEEL
components come in contact with undeaerated water.

A.S.M.E. CODE and NATIONAL BOARD
stamped receivers at 50 psig is standard.

CUSTOM ENGINEERED PACKAGED SYSTEM and low NPSH pumps require a small foot print and minimal headroom.

Testing Requirements
This system requires steady state conditions per the ABMA testing procedure.

ADVANTAGES

Industrial Steam's exclusive constant recycling feature, and the use of a partitioned receiver, provide the advantages of a two-tank system as a single package. These advantages are available without the necessity for onsite erection or field installed piping. Expanded deaerating sections are standard for surge condensate loads.

GUARANTEED PERFORMANCE FROM 0% to 100% of capacity regardless of load conditions is unmatched by any other deaerator. The STEAM FLOW also carries a 10-year vessel guarantee without the use of a lining.

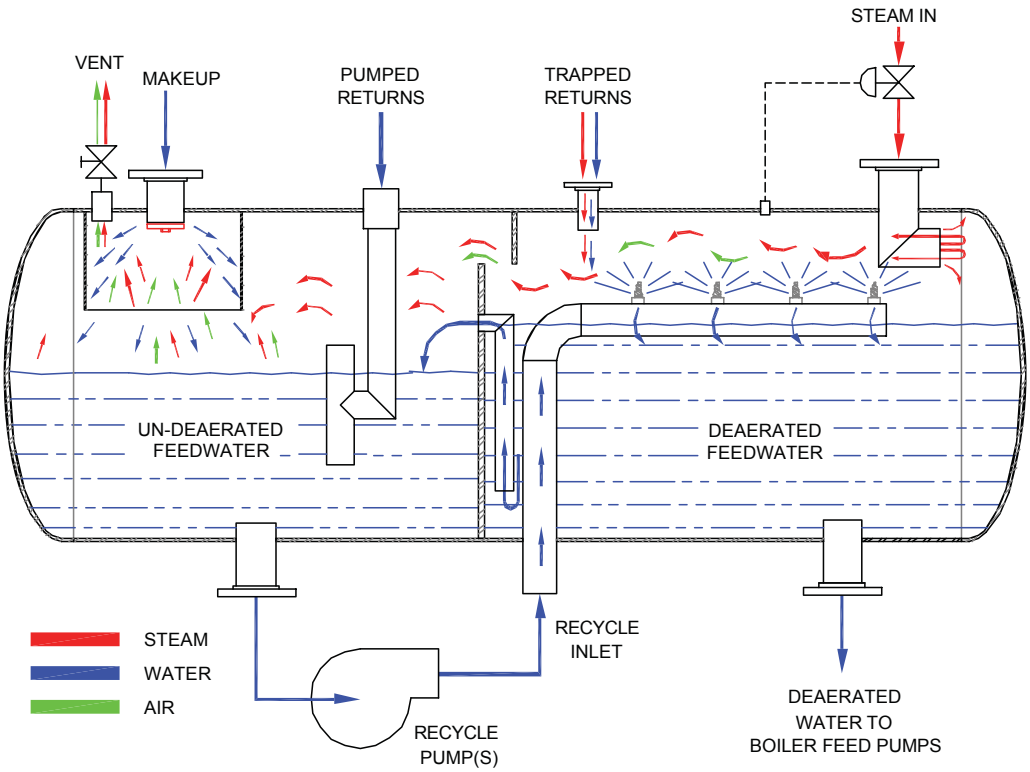
CUSTOM ENGINEERED PACKAGED SYSTEM and low headroom with low NPSH pumps. Selection of quality components insures reliable service, and there is a single source of responsibility for all major components.

OPERATION

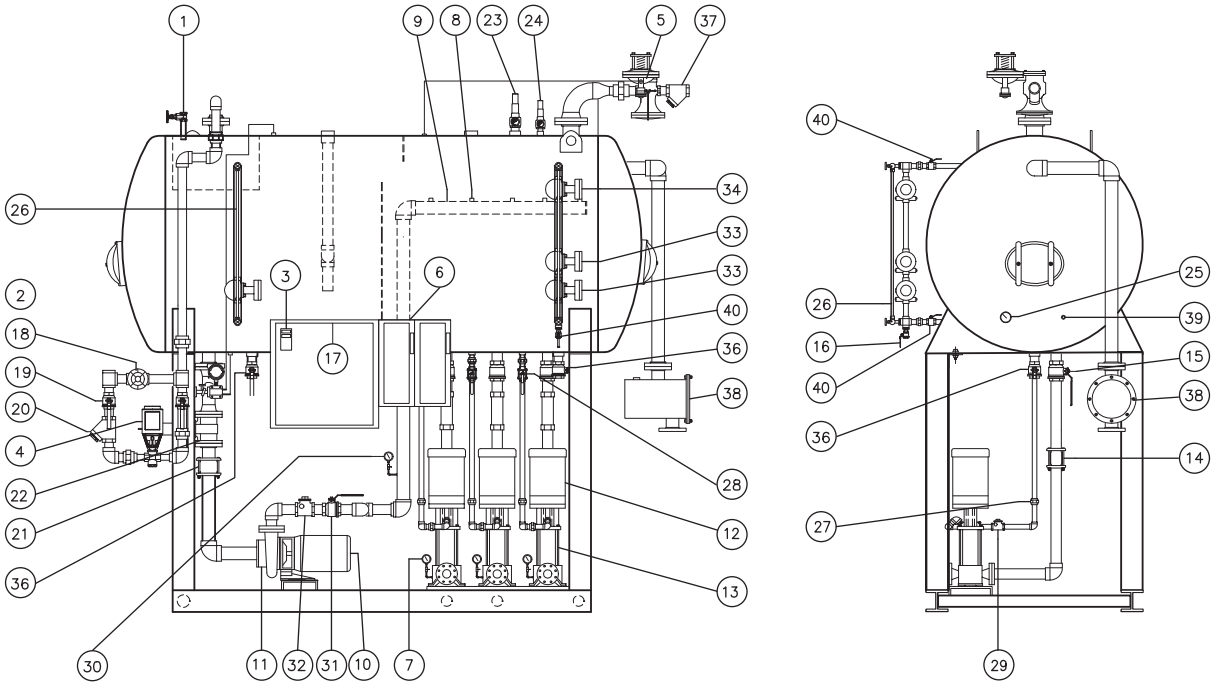
Makeup water is sprayed through a stainless steel spring-loaded nozzle into a stainless steel internal vent condenser which is located in the mixing section. This incoming water is heated instantly by direct contact with steam. Returned condensate enters below the water level to eliminate pressure decay caused by surging returns.

The deaerated water is then pumped into the deaerating section where it is blasted through stainless steel wide angle, full-cone unrestricted nozzles. The last traces of oxygen are shaken out at the source of the purest steam. The pumped transfer rate is approximately 125% of deaerator capacity, which enables the deaerator to furnish the boiler with deaerated water from start up. Deaeration is accomplished from 0% to 100% load, and thermal stratification is eliminated.

Excess deaerated water, which is not required by th boiler, recycles into the deaerating section through the compartment overflow. This deaerated water is blended with makeup water and is constantly rescrubbed. Non-condensable vapors are expelled from te top of the deaerator through the internal vent condenser.



Components and Sizing



1 Gate Valve (Vent)
2 Level Transmitter
3 Level Controller
4 Make-up Control Valve
5 Spence Valve
6 Starter
7 Discharge Pressure Gauges w/cock
8 Spray Nozzles
9 Spray Scrubbing Manifold
10 Recycle Pump Motor
11 Recycle Pump
12 Boiler Feed Pump Motor
13 Boiler Feed Pump
14 Suction Coupling
15 Suction Ball Valve
16 Ball Valve (Column Drain)
17 Control Panel (Nema 1)
18 Globe Valve (Make-up Inlet)
19 Ball Valves (Make-up Inlet)
20 Y-strainer (Make-up Inlet)
21 Suction Discharge Coupling (Recycle)
22 Suction Gate Valve (Recycle)
23 Safety Valve (Set @ 50#)
24 Sentinal Relief Valve: (Set @ 50#)
25 Temperature Gauge w/thermowell (50 DEGREE - 500 DEGREE F)
26 Sight Glass Assembly
27 Orifice Union
28 Ball Valve (Recirculating)
29 Check Valve (Recirculating)
30 Discharge Pressure Gauges w/cock (Recycle)
31 Discharge Ball Valve (Recycle)
32 Discharge Check Valve (Recycle)
33 Low Water Alarm & Cut-off Switch
34 High Water Alarm Switch
35 Emergency By-pass
36 Ball Valve (Drain)
37 Y-strainer (Steam Inlet)
38 Overflow Trap
39 Chemical Feed Quill
40 Ball Valve (Column Isolation Valve)

MODEL NUMBER	MAXIMUM LOAD		RECEIVER SIZE	SYSTEM CAP. TO OVERFLOW		RECYCLE PUMP			APPROX OVERALL DIMENSIONS			APPROX SHIPPING WEIGHT **
	LBS/HR	HP	INCHES	GALS	MIN.	GPM	HEAD	HP	HEIGHT*	L	W	
1SF5-CS	3,450	100	30 x 72	240	34.3	10	60	3/4	90	108	60	1,680
2SF5-CS	6,900	200	30 x 84	280	20	20	60	3/4	90	120	60	1,760
3SF5-CS	10,350	300	30 x 120	380	18.1	30	60	1	90	156	60	2,000
4SF5-CS	13,800	400	36 x 120	540	19.3	40	60	1 1/2	96	156	66	2,270
6SF5-CS	20,700	600	42 x 120	750	17.9	50	60	2	102	156	72	2,970
8SF5-CS	27,600	800	48 x 120	1,000	17.9	80	60	2	108	157	78	3,680
10SF5-CS	34,500	1,000	54 x 120	1,300	18.6	90	60	3	114	159	84	4,195
12SF5-CS	41,400	1,200	60 x 120	1,600	19	100	60	3	120	162	90	4,710
15SF5-CS	51,750	1,500	66 x 120	2,020	19.2	135	70	5	126	164	96	5,240
18SF5-CS	62,100	1,800	66 x 144	2,420	19.2	170	70	5	126	188	96	6,215
21SF5-CS	72,450	2,100	66 x 168	2,800	19	185	70	5	126	214	96	6,745
24SF5-CS	82,800	2,400	66 x 192	3,150	18.8	200	60	5	126	238	96	7,480
30SF5-CS	100,000	3,000	72 x 192	3,640	17.3	275	60	7 1/2	132	240	102	9,210
36SF5-CS	125,000	3,600	72 x 216	4,120	16.3	315	60	7 1/2	132	264	102	9,890
45SF5-CS	150,000	4,500	84 x 192	5,020	16.3	375	60	10	144	245	114	11,820
60SF5-CS	200,000	6,000	84 x 240	6,180	15.2	500	60	15	144	294	114	13,615
75SF5-CS	250,000	7,500	96 x 216	7,300	14.5	625	60	15	156	267	126	13,965
90SF5-CS	300,000	9,000	96 x 240	8,100	13.3	750	60	20	156	297	126	14,865

Additional Industrial Products

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