



Honeycomb Dehumidifier

SD-40H-D

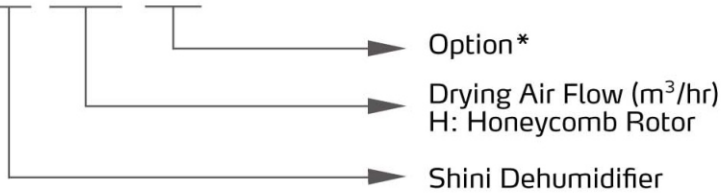


Refer carefully to this manual before operation.

SD-H Series

■ Coding Principle

SD- xxxH- xxx



Notes:*

LC=Touch Screen

D=Dew-point Monitor

PHC=Process Heater and Temperature Controller

CE=CE Conformity

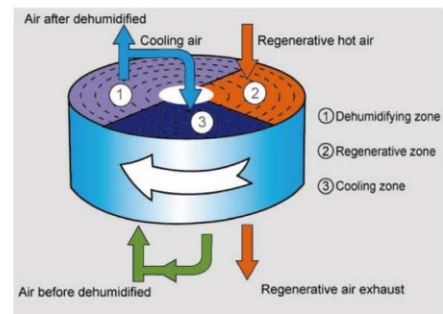
■ Features

Standard configuration

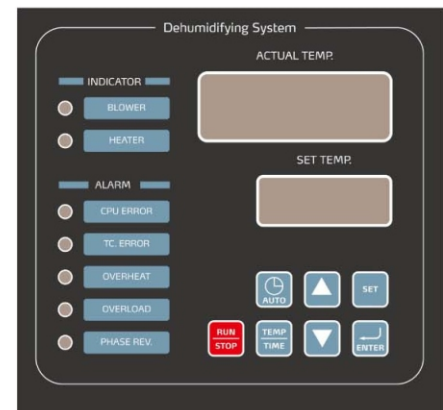
- Adopts P.I.D. temperature controller to accurately control regenerative temperature.
- The dehumidifying system of the SD-H series features coolers to ensure a low return air temperature and low dew-point.
- Inbuilt return air filter ensures no contamination to the honeycomb.
- It is better to adopt molecular sieve structure honeycomb than silica gel adsorption one in dehumidifying.

Accessory option

- Centralized automatic control can be realized by optionally selected PLC touch screen controller.
- Optionally select dew-point monitor to realize dew-point real-time monitoring.
- Optionally select drying heater and its temp. controller to work with drying hopper for material dehumidifying and drying.
- Optional heat-resistant air pipe, cyclone dust separator, oil filter are available.
- Dew-point -50°C/-58°F is optionally equipped.



Honeycomb Rotor
Working Principle



Control Panel

■ Application

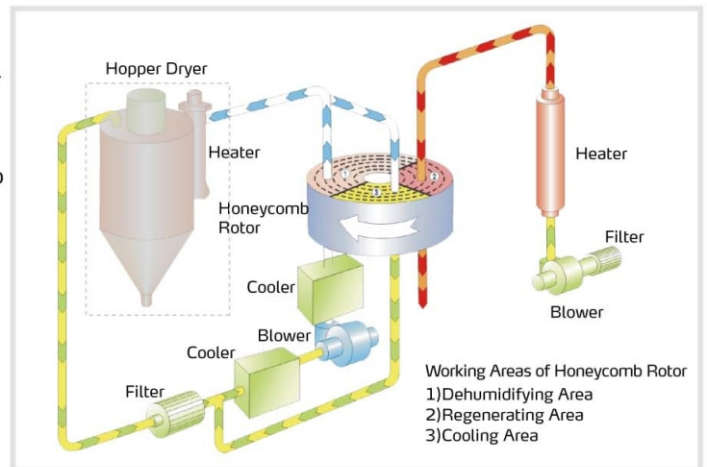
SD-H series honeycomb dehumidifiers are mainly used to dry hygroscopic engineering plastics. A honeycomb-rotor is used to offer effective drying, which under ideal conditions, can supply dehumidified dry air with dew-point lower than -40°C/-40°F, the largest of which can provide dry air up to a quantity of 4,000 m³/hr.

SD-H Series

What is honeycomb rotor?

The main part of honeycomb rotor is made by ceramic fiber and organic additives, sintered under high temperature with molecular sieve or silica gel as basic material to bond together with inside of honeycomb to form the honeycomb-like structure. Unlike common desiccant or rotary molecular sieve, then, when aging, will produce dust, followed by process air to drying hopper, to pollute plastic material. Honeycomb rotor offers unlimited long service life and can be cleaned and not like usual molecular sieve which is easy to get saturated or requiring regular replacement. The moisture of return air is quickly absorbed by molecular sieves when passing through numerous holes within honeycomb rotor. So when coming out of rotor, can form low dew-point dry air. Regenerating and dehumidifying have similar principle and run simultaneously. The only difference is that the two process winds are in opposite direction.

System Flow Chart



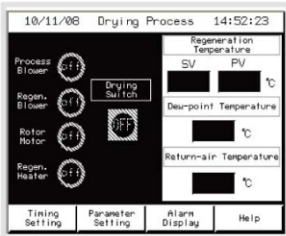
Drying Capacity

Material	ABS	CA	CAB	CP	LCP	POM	PMMA	IONOMER	PAG/6.6/6.10	PA11	PA12	PC	PU	PBT	PE	PEI	PET	PETG	PEN	PES	PMMA	PPO	PPS	PI	PP	PS (GP)	PSU	PVC	SAN (AS)	TPE
Drying Temp. °C	80	75	75	75	150	100	80	90	75	75	75	120	90	130	90	150	160	70	170	150	80	110	150	120	90	80	120	70	80	110
Drying Temp. °F	176	167	167	167	302	212	176	194	167	167	167	248	194	266	194	302	320	158	338	302	176	230	302	248	194	176	248	158	176	230
Drying Time (hr)	2-3	2-3	2-3	2-3	4	2	3	3-4	4-6	4-5	4-5	2-3	2-3	3-4	1	3-4	4-6	3-4	5	4	3	1-2	3-4	2	1	1	3-4	1-2	1-2	3
Specific Heat (kcal/kg.°C)	0.34	0.5	0.5	0.6	0.6	0.35	0.35	0.55	0.4	0.58	0.28	0.28	0.45	0.3-0.5	0.55	0.6	0.3-0.5	0.6	0.85	0.7	0.65	0.4	0.6	0.27	0.46	0.28	0.31	0.2	0.32	0.7
Bulk Density kg/L	0.6	0.5	0.5	0.6	0.6	0.6	0.65	0.5	0.65	0.65	0.65	0.7	0.65	0.7	0.6	0.6	0.85	0.6	0.85	0.7	0.65	0.5	0.6	0.6	0.5	0.5	0.65	0.5	0.5	0.7
Bulk Density lb/gal	5	4.2	4.2	5	5	5	5.4	4.2	5.4	5.4	5.4	5.8	5.4	5.8	5	5	7	5	7	5.8	5.4	4.2	5	5	4.2	4.2	5.4	4.2	4.2	5.8
Moisture Content before Drying (%)	0.3	1	0.8	1	0.04	0.2	0.5	0.1		1		0.3	0.2	0.01	0.25	0.2	0.5	0.1	0.8	0.5	0.1	0.4	0.1	0.3				0.1		
Moisture Content after Drying (%)				0.02				0.04		0.05		0.01	0.02	<0.01	0.02	0.05	0.02	0.05	0.02		0.04				0.02				0.05	0.02

Notes: 1) Use separated drying hopper.

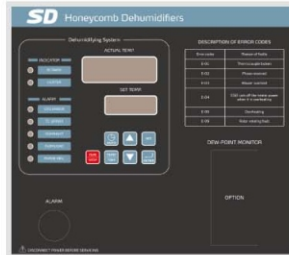
2) Moisture content lower than 0.005% after drying when in 20°C ambient temperature and 65% relative humidity.

Options



Touch Panel

(LCD with PLC control)



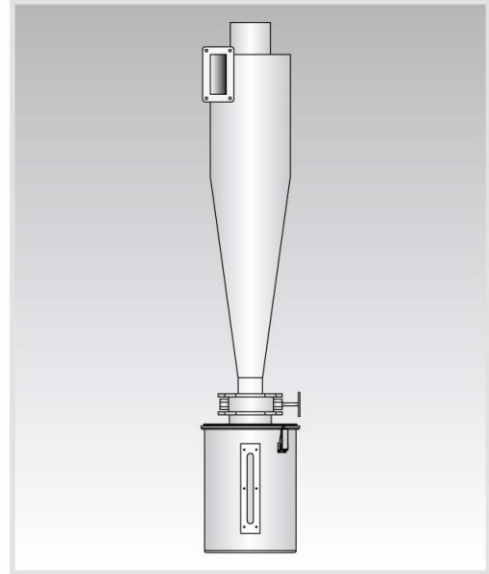
Process Heater Control



Dew-point Monitor (installed on machine)

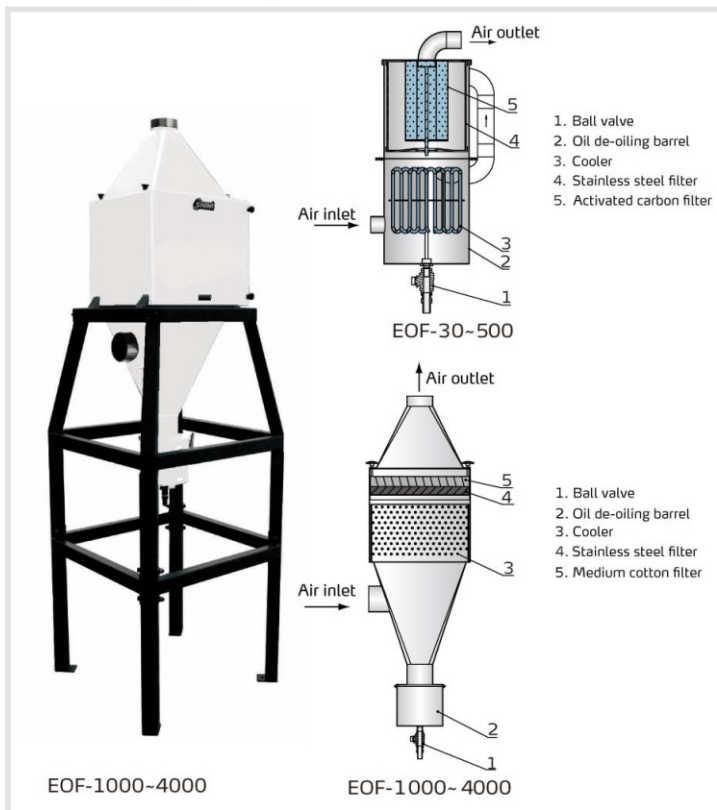


Dew-point Monitor (portable)



Cyclone Dust Collector ACF

EOF Working Principle



Cyclone dust Collector (applicable when material contains too much dust.)

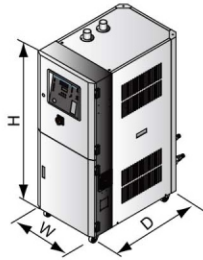
Model	Applied to
ACF-3"	SD-300H / 400H
ACF-4"	SD-700H
ACF-5"	SD-1000H
ACF-6"	SD-1500H
ACF-8"	SD-2000H / 3000H
ACF-12"	SD-4000H

Oil Filter (applicable when material contains plasticizing agent.)

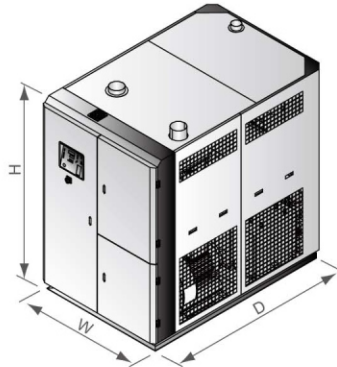
Model	Applied to
EOF-30	SD-40H~120H
EOF-150	SD-150H / 200H
EOF-300	SD-300H / 400H
EOF-500	SD-700H
EOF-1000	SD-1000H
EOF-1500	SD-1500H
EOF-2000	SD-2000H
EOF-3000	SD-3000H
EOF-4000	SD-4000H

SD-H Series

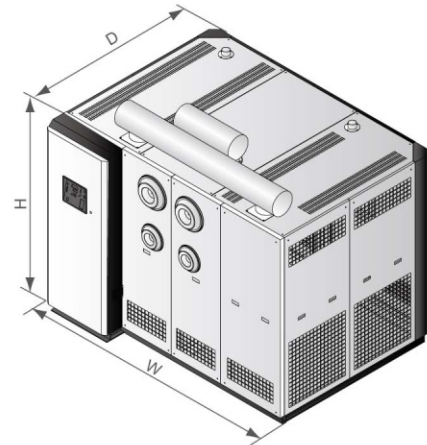
Outline Drawings



SD-40H-700H



SD-1000H-2000H



SD-3000H-4000H

Specifications

Model	SD-	40H	80H	120H	200H	400H	700H	1000H	1500H	2000H	3000H	4000H	
Rege. Heater (kW)		3	3	3	4	7.2	10	15	28	28	32	56	
Rege. Blower (kW, 50/60Hz)		0.4/0.4	0.4/0.4	0.4/0.4	0.4/0.5	0.75/0.9	1.5/0.8	3.75/4.7	7.5/8.6	7.5/8.6	9/11	5.5×2/6.3×2	
Process Heater* (kW)		3	6	6	12	18	24	32	58	80	96	128	
Process Blower (kW, 50/60Hz)		0.20/2	0.75/0.9	0.75/0.9	1.5/1.8	3.75/4.5	7.5/8.6	13/16	9×2/11×2	13×2/15×2	13×3/15×3	13×4/15×4	
Drying Air Quantity (m ³ /hr, 50/60Hz)		30/35	80/95	120/130	200/220	400/450	700/780	1000/1150	1500/1750	2000/2300	3000/3400	4000/4500	
Pipe Dia. (inch)		2	2	2	2.5	3	4	5	6	8	8	12	
Cooling Water Quantity	L/min	4	10	15	30	50	80	120	180	240	360	480	
	gal/min	1	2.6	4	8	13.2	21	31.7	47.6	63.4	95	126.8	
Dimension	H	mm	1260	1360	1360	1560	1745	1935	2145	2060	2060	2240	2060
		inch	49.6	53.5	53.5	61.4	68.7	76.2	84.4	81.1	81.1	88.2	81.1
	W	mm	480	530	530	660	700	900	1300	1410	1410	2035	2750
		inch	18.9	20.9	20.9	26	27.6	35.4	51.2	55.5	55.5	80.1	108.3
	D	mm	755	820	820	1050	1255	1380	1550	2150	2150	2160	2250
		inch	29.7	32.3	32.3	41.3	49.4	54.3	61	84.6	84.6	85	88.6
Weight	kg	145	170	170	265	330	480	700	1010	1300	1600	2200	
	lb	320	375	375	584	728	1058	1543	2227	2866	3527	4850	

- Notes: 1) Plastic materials can be fully dried by drying air with dew-point temperature $\leq -20^{\circ}\text{C}$. We reserve the right to change specifications without prior notice.
 2) "*" Stands for drying heater is optional equipment for working with "European type" hoppers.
 3) Additionally mount temp. controller for drying heater add "P" at model behind (For example: SD-XXH-P).
 4) For dew-point monitor install on the machine, add "D" at model behind.
 5) Power: 3 Φ , 230/400/460/575VAC, 50/60Hz.

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