



HYPER DRYER / HD SERIES



The HD-series of qip GmbH represent the next generation of compressed air dryers based on the many years approved two-circuit-system. Beside the major advantages that no desiccant is required to generate dry air for the drying process and the very low compressed air consumption due to the two-circuit-technology, the HD-series offer a round drying hopper with one or two service doors. This enables further reduction in compressed air consumption and minimizes the cleaning effort in case of material changes. The use of high-quality stainless-steel parts as well as reliable components, and a production process on highest quality standards turn the HD-series into one of the most reliable and energy-efficient resin dryers in the market.

Benefits:

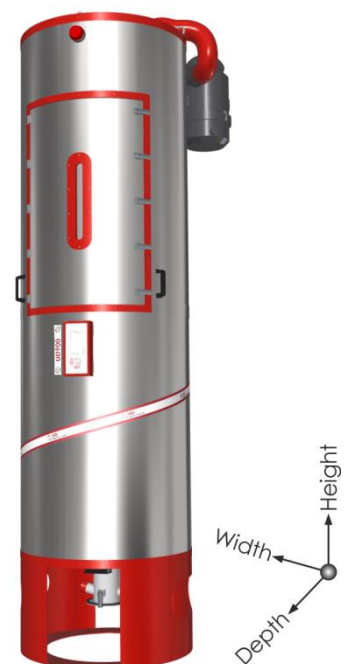
- * **Compressed air savings up to 85%**
- * **3-years full warranty on parts and workmanship**
- * **Maintenance-free**
- * **Low operating costs due to low compressed air consumption**
- * **Constant drying performance for life time**
- * **Automatic energy control, optimized to actual material throughput**
- * **Space-saving design for lowest space requirements**
- * **Drying hopper and sheet metal parts made of high-quality stainless steel**
- * **Simple to install and to start up**
- * **Intuitive and self-explanatory operation through colored touch screen**
- * **Easy to clean**



TECHNICAL DATA		HD2200	HD2700	HD3200	HD3700	HD4200	HD4700
Drying hopper	[Liter]	2200	2700	3200	3700	4200	4700
Power supply	[V / Hz]	3N 400 / 50 (alternative operating voltages on request)					
Installed power (for drying temperatures up to 180°C)	[kW]	38	47	55	64	72	81
Compressed air consumption	[Nm³/h]	50 to 155	55 to 190	60 to 220	65 to 255	70 to 290	75 to 330
Compressed air supply	[bar]	6 to 10					
Compressed air quality		dew point: 3 to 5°C at 7bars / residual oil content max. 0.1ppm					
Drying temperature	[°C]	20 to 180 (higher drying temperatures on request)					
Permitted ambient temperature	[°C]	+20 to +60					
Permitted ambient humidity	[% RH]	80 (without condensation even higher values)					
Height with static frame / without blower	[mm]	3950	4190	4410	4600	4780	4970
Width with static frame / without blower	[mm]	1270	1340	1410	1470	1520	1560
Depth with static frame / without blower	[mm]	1470	1540	1610	1670	1720	1760
Weight	[kg]	1100	1300	1475	1590	1700	1800

DRYING DATA

	Time [h]	Temp. [°C]	Material throughput [kg/h] bulk density 0.65kg/liter, for PET 0.8kg/liter					
			HD2200	HD2700	HD3200	HD3700	HD4200	HD4700
ABS	2	80	715	880	1040	1200	1365	1530
ASA	3	80	475	585	695	800	910	1020
CAB	2	75	715	880	1040	1200	1365	1530
CP	4	75	355	440	520	600	680	765
EVA	2	80	715	880	1040	1200	1365	1530
EVOH	5	120	285	350	415	480	550	610
LCP	4	150	355	440	520	600	680	765
PA	4	80	355	440	520	600	680	765
PBTP	3	140	475	585	695	800	910	1020
PC	2	120	715	880	1040	1200	1365	1530
PE	2	85	715	880	1040	1200	1365	1530
PEEK	3	150	475	585	695	800	910	1020
PET	4	180	440	540	640	740	840	940
PET G	6	75	240	290	345	400	455	510
PI	3	120	475	585	695	800	910	1020
PMMA	3	80	475	585	695	800	910	1020
POM	3	100	475	585	695	800	910	1020
PP	3	90	475	585	695	800	910	1020
PPS	2	150	715	880	1040	1200	1365	1530
PS	2	80	715	880	1040	1200	1365	1530
PUR/TPU	3	90	475	585	695	800	910	1020
SAN	2	80	715	880	1040	1200	1365	1530
TPE	3	100	475	585	695	800	910	1020

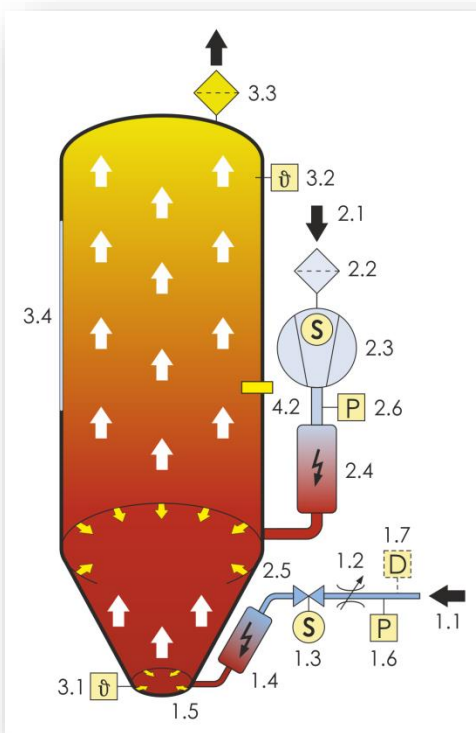




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How it works:



Ambient air (2.1) is drawn in by a speed-controlled blower (2.3) through an air filter (2.2), heated up in the heater (2.4) and blown into the drying hopper through the distributor ring for ambient air (2.5).

Pre-dried compressed air (1.1) is supplied by a connector. It flows through pressure regulator (1.2) and servo valve (1.3) into the dry air heater where it is heated up to drying temperature. Due to the expansion to atmospheric level, the air becomes very dry. The hot and dry air streams through the distributor ring for dry air (1.5) into the lower part of the hopper. Both, ambient and dry air rise from bottom to top, thereby heating up and drying the resin inside the dryer to finally leave through the air outlet filter (3.3) to the ambient.

Pressure switches (1.6; 2.6) monitor the air supply and immediately shut down the respective heater in case of a fault to protect it against thermal overloads.

A sensor (3.2) verifies the temperature in the upper part of the drying hopper which alters accordingly to the current material throughput. The microprocessor control analyzes that temperature, regulates the air flow in both ambient and dry air circuit and optimizes the energy consumption to the required level.

Another sensor (3.1) measures the temperature at the material outlet of the drying hopper and initiates the controller to affect the air flow regulation to guarantee a proper drying process.

A generously sized service door facilitates the cleaning process in case of material changes. The door is equipped with a sight glass to allow visual checks of the material level in the drying hopper. Additionally, the material level may be monitored by an optional sensor (4.2) which prematurely alerts the operator in case of low resin level. The humidity of compressed

air may be checked with an optional dew point sensor (1.7) which supplies an alarm if a bad value exists. Dust inside the air outlet filter (3.3) on top of the hopper may automatically be blown out by an optional filter cleaning system (4.1), thereby lowering the need of manual cleaning cycles.

An integrated microprocessor controller with colored display and touch screen regulates the drying process and allows the additional control of Vacuum- and Venturi-loaders for one and two components. Multiple interface connections (TTY, RS485, RS232, USB, Ethernet ...) may be used to control and communicate with various production machines, for data and alarm recording, for implementation into PDA-systems (production data acquisition systems) and for access through web-client to monitor and control dryer's operation. An optional alarm signal may be used for simple alerts on external devices or applications.

Available features:

- * Microprocessor controller with colored display and touch screen
- * Pre-programmed and freely programmable drying data base
- * Weekly timer for drying and/or loading processes
- * Automatic Standby-Mode to avoid resin degradation
- * Automatic energy control regulation according to real material throughput
- * Integrated control of Vacuum- and Venturi-loaders for one and two components
- * Additional Power- and Boost-Mode to dry challenging resins
- * USB-port for data recording as a standard
- * TTY-, RS485-, CAN- and Ethernet port to communicate with production machines and PDA-systems (production data acquisition systems)
- * ModbusTCP-protocol available as standard
- * Alarm indication through integrated strobe light and optional alarm contact
- * No air inlet pipes in drying hopper
- * Inner hopper and sheet metal components made of high-quality stainless steel
- * High class thermal insulated drying hopper
- * Generously sized service door with sight glass for visual monitoring of material level and to facilitate cleaning process
- * Comprehensive accessories available