

consumption of utilities for production

product: ReadyMac 500
 application 1: LDPE, LLDPE
 application 2: HDPE
 application 3: PP
 application 4: PS

throughput:
 up to 500 kg/h
 up to 450 kg/h
 up to 500 kg/h
 up to 500 kg/h

V 4.2

city water			temperature	max. 25 °C	
position in layout		description	remark	consumption	pressure
inlet	outlet			l/h	bar
G	/	water injection into PCU (pre-conditioning unit)		5,0	2,5 - 4
N	O	BWB: Water consumption to reduce water exchange interval	①, ②	84,0	2,5 - 4
N	O	BWB: Water consumption due to evaporation in pump	③, ④	20,0	2,5 - 4
N	O	pelletising system		10,0	2,5 - 4
total				119,0	
remark					
①	To ensure that the water quality is retained for longer, the process water tank is equipped with an adjustable fresh water flushing. To attain a water exchange, the fresh water valve is opened between 0% and 33% (corresponds at 2 bar max. 27m ³ /day) of the operating time (time adjustable). If the value is set 0%, the fresh water flushing is switched off!				
②	The cleaning cycle of the closed circuit for operating water of vacuum pump is a manual operation (not automatic mode). The consumption per cleaning cycle is around 200 liters (53 gal). The interval depends on the contamination of the feeding material. Under normal usage, you need to clean the tank every 200 – 1000 operating hours.				
③	The water tank (closed circuit for operating water of vacuum pumps) should be positioned in the same level than the vacuum pump (max. 500 mm higher). The backflow of the process water into the closed circuit for operating water of vacuum pump needs to be unpressurised.				
④	Some of the extracted substances out of the degassing unit will dispose in the process water. Which kind of substances and the quantity of it depends on the contamination of the feeding material (requires empiric validation). Please contact you local administration to determine how to treat your waste water.				

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chilled water			temperature	10	°C
position in layout		description	flow	cooling cap.	pressure
inlet	outlet		m³/h	kW	bar
E	F	UMAC: gearbox & barrel cooling	2,0	20,0	2,5 - 4
E	F	electric cabinet on main frame + operating cabinet on main frame	1,0	4,0	2,5 - 4
L	M	WPS: pellet cooling	13,0	87,0	2,5 - 4
total			16,0	111,0	
remark					
<ul style="list-style-type: none"> To ensure chilled water circulation, there needs to be a sufficient pressure gradient between in and outlet. After finishing the installation and commissioning all chilled pipes have to be isolated, in order to prevent the condensation (condensation can damage electrical components). 					

chilled water			temperature	10	°C
position in layout		description	flow	cooling cap.	pressure
inlet	outlet		m³/h	kW	bar
W	X	BWB: closed water circuit for vacuum pump	1,1	3,7	2,5 - 4
total			1,1	3,7	
remark					
<ul style="list-style-type: none"> To ensure chilled water circulation, there needs to be a sufficient pressure gradient between in and outlet. After finishing the installation and commissioning all chilled pipes have to be isolated, in order to prevent the condensation (condensation can damage electrical components). 					

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compressed air						
position in layout		description	remark	consumption	pressure	
inlet	outlet			m ³ /h	bar	
C	/	valve for vacuum pump	②	0,00	2,5 - 4	
C	/	pelletizing system	②	0,00	2,5 - 4	
				total	0,00	
①	consumption per switch: 1 liter at 6 bar (0,26 gal at 87 psi)					
②	consumption per machine start or stop: 1 liter at 6 bar (0,26 gal at 87 psi)					

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electric data	
position in layout	remark
<< POWER VERSION 400V 50Hz >>	
	main supply: 400 V (AC)
	frequency: 50 Hz (+/-2%)
	control voltage: 24 V (DC) ①
	rated current: 401A
	rated power (full load): 247kW
	starting current: 422A for 30 sec. ②
B	max. backup fuse: 630AgG ③
remark	<ul style="list-style-type: none"> According to EN 61800-3 the plant is designed for operation in the 2nd environment (industry) in category C3 <p>① The control voltage is generated from the electric equipment included in the scope of supply</p> <p>② Normally only a short peak. The run-up takes approx. 7-10 sec. (motor protection class 20), 30 sec. are necessary for choice of a selective backup fuse</p> <p>③ The backup fuse has to be supplied by customer and defined in accordance to the local regulations and on the basis of the rated current & plant starting current.</p>
<< POWER VERSION 480V 60Hz >>	
	main supply: 480 V (AC)
	frequency: 60 Hz (+/-2%)
	control voltage: 24 V (DC) ①
	rated current: 343A
	rated power (full load): 254kW
	starting current: 361A for 30 sec. ②
B	max. backup fuse: A6D600 ③
remark	<ul style="list-style-type: none"> According to EN 61800-3 the plant is designed for operation in the 2nd environment (industry) in category C3 <p>① The control voltage is generated from the electric equipment included in the scope of supply</p> <p>② Normally only a short peak. The run-up takes approx. 7-10 sec. (motor protection class 20), 30 sec. are necessary for choice of a selective backup fuse</p> <p>③ The backup fuse has to be supplied by customer and defined in accordance to the local regulations and on the basis of the rated current & plant starting current.</p>

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other supplies, utilities or emissions					
position in layout		aspiration (air / dust / vapour)	remark		air volume
inlet	outlet				m³/h
/	K	suction opening at cutter compactor	①		306
/	H	BWB: exhaust air of vacuum pump(s)	①		50
remark					
① A suitable suction system has to be supplied by customer.					
② Even when it's not mandatory, we recommended to use a suitable suction system in the surrounding of the melt filter as well as the down stream equipment to collect emissions of melting plastic and steam.					
⑥ Consumption varies depending on process conditions. I.e. water quality, evaporation,...					
⑦ Due to high humidity some kind of water drainage is recommended.					

All mentioned consumption and emission data are based on maximum throughput.
 The specified coolant flow refers to the maximum permissible temperature of the coolant.
 The consumption and emission data may vary dependent on operation conditions. Possible influencing values i.e. are: input material properties (humidity, contamination,..) throughput, filtration, process parameters,...

Cooling circuits can be closed completely, so an installation of a bypass is recommended.