

Electrical Energy Consumption for one production line

KR800	Voltage	Fuse	Power	Apparent Power
Main Unit	3/400V	3/1000 A	522 kW	690 kVA
<ul style="list-style-type: none"> • Production station 	3/400V	3/16 A	4 kW	5 kVA
<ul style="list-style-type: none"> • Milling and Cooling station 	3/400V	3/25 A	16 kW	20 kVA
<ul style="list-style-type: none"> • Dismantling station 	3/400V	3/25 A	15 kW	18 kVA
<ul style="list-style-type: none"> • Pipe finishing station 	3/400V	3/25 A	16 kW	20 kVA
Customer supply line:	3/400V	-	603 kW	754 kVA

Effective used power is about 60% of the installed power (754 kVA).

Additional energy supply:

Chiller-Systems, Compressor for Pressure Air, Manhole fabrication hand tools, Raw-material supply, Lights, Sockets, Cranes, Offices, etc.

Water Consumption

Chillers (cooling systems) for different Krah machines

Required cooling capacity:

Calculation: $Q = m \times T \times c \times 1,163$

KR 800:

Inlet temperature: 14 °C Outlet temperature: 24°C T = 10 °C

m = 3200 l/h

$Q = 3200 \times 10 \times 1 \times 1,163$

$Q = 37. 216 \text{ W} = 37 \text{ kW (RKV 11.2)}$

Pressure:

2-3 bar

Water quality

The following prerequisites must be met:

If the water is very hard or impure, install a suitable water treatment system into the water intake.

Minimum diameter of the return line connected to the extruder	2.5"
Water quality	
• Overall water hardness	2.14 mmol/l = 12° dH
• Non-carbonate hardness	0.89 mmol/l = 5° dH
• Suspended and settle able solids	max. 10 mg/l
• Particle size	max. 20 µm
Static pressure	max. 8 bar
Open water circuit:	
• Dynamic pressure of incoming water	min. 4 bar
• Max. pressure fluctuation	±0.3 bar
Closed water circuit:	
• Pressure difference between inlet and return line when machine is running	min. 3 bar

Gas Consumption for one production lines

	Calculation Factors	One line 3 shifts
Max. consumption propane gas [kg/h]	8 Injektors A 7,5 kg	60
Max. consumption town gas [kg/h]	22,6 kWh/kg	68
Max. consumption propane gas [l/h]	0,9996 kg/l	120
Max. consumption town gas [m ³ /h]	1,4 kg/m ³	98
Max. heating power [kW]	25,74 kWh/kg	772
Consumption propane gas / year [kg/a]		30.000
Consumption propane gas / year [l/a]	0,4998 kg/l	60.024
Consumption town gas / year [kg/a]	11,3 kWh/kg	34.168
Consumption town gas / year [m ³ /a]	0,7 kg/m ³	48.812
Consumption propane gas (one line):	App. 0,068 liters / kg manufactured pipe App. 0.034 kg propane / kg manufactured pipe	
Consumption town gas (one line):	App. 0,038 kg town gas / kg manufactured pipe App. 0,055 m ³ town gas / kg manufactured pipe	

Air Consumption

	consumption	pressure
KR800	140 NI/min	4-8 bar
Welding spiral production machine	300 NI/min	6 bar
Customer supply line:	440 NI/min	7-8 bar

The compressed air supply must meet the following specifications for an air quality as per ISO 8573/1:

Impurities	Class 3
<ul style="list-style-type: none"> • Particle size • Particle density 	5 μm 5 mg/m^3
Oil content	Class 2
<ul style="list-style-type: none"> • Quantity 	0.1 mg/m^3
Pressure dew point	Class 4
<ul style="list-style-type: none"> • Dew point 	+ 3 °C
Residual water content	6 g/Nm^3 at 100 % relative humidity