1.1 Grit and sand classifier unit

- **General**

General		Description
Operating principle		Grit and sand classifier is used for separating sand, gravel and fine solid particles from wastewater in order to prevent damage to pumps and other electromechanical equipment.
Type		Encapsulated, odor-free
Tag No.		
Dwg. No.		
Quantity		1
Site conditions		
Site elevation	m	~ 25 m above sea level
Ambient temp.	ºC min/nom/max	5/20/40
Humidity	%	Approx. 85
Environment		Corrosive
Location/ erection		Outdoors
Operation		Continuous
Process		
Medium		Municipal wastewater
Operating temp.	ºC min/nom/max	18/25/45
pH value		5.0 - 8.5
Organic concentration	mg BOD5/l	800
Solid concentration	mg TSS/l	1,500
Density	kg/m3	1,045
Scope of supply		- grit classifiers - drives - discharge hopper - machine support frame and anchor bolts - automatic/ manual valves, all fittings, pipe, tubing and instrumentation required for the operation of the unit. - electrical and control panel with complete integrated control system for controlling the grit classifier unit. - full automatic operation of the grit classifier unit designed and built according to the attached specifications. - ProfiNet communication + GSDML configuration file for integration into the plant main PLC. - all parts required for on-site erection, ready for operation, including lubricant - electrical cables ending on the platform in a terminal box. - spare parts according to the manufacturer demand - Individual factory performance test. - O&M manuals and operating curves - 2D and 3D specific and detailed equipment drawing (in Autocad dwg. & STP format delivered within 15 days from tender wining date for client's pre-approval (comments by the client will be delivered within 1 week). - final 3D specific and detailed equipment drawing (in Autocad dwg. or STP format), data sheets, O&M manuals and operating curves delivered within 60 days from tender wining date. - an open (none password protected) copy of the PLC and HMI logic updated software. - a supreme installation supervision by the manufacturer representative that will execute a final installation approval certificate. - system start-up and training - warranty on the system and components for 12 months from start-up or 18 months from supply to site (whichever comes first). - additional requirements as described
Notes:		The manufacturer's proposal shall be accompanied with: - this specifications form, filled with all relevant details and required information (no blank spaces are allowed) - an appropriate 3D equipment drawing (in Autocad dwg. or STP format). - the required spare parts list for one year with added costs.

- **Grit classifier**

Manufacturer /Supplier	KUHN, MEVA, HUBER, FSM, FLUIDYNE
Type / model	
Grit classifier	
Type	Feed under pressure
System capacity m3/h	100
Inflow feed direction	Tangential
Grit removal (grain size 0.20 - 0.25 mm) %	95
Screw inclined angle (from horizon) deg.	
Control/ instrumentation	
Integrated control system	Control, monitoring and communication unit (to plant main control system)
Communication	ProfiNet + GSDML configuration file for integration into the plant main PLC
PLC manufacturer	Emerson, pac systems RX3i
Emergency stop	On machine
Materials of construction	
All components in contact with medium	SS 316L
Separating container	SS 316L
Conveyor housing and cover	SS 316
Inner screw	Special steel
Discharge hopper	SS 316L
Lifting lugs	SS
Bolts / nuts	SS
Dimensions (L x W x H) mm	
Total weight Kg	

- **Drives**

Manufacturer /Supplier	Gritt classifier manufacturer
Type	Squirrel cage motor with shaft mounted gear
Corrosivity Category	
Rated power kW	
Power supply V/Hz	3 x 400 / 50
Rated current A	
Starting current A	
Starting method	Direct/ soft start
Speed RPM	
Power input kW	
Power consumption kW	
Life time bearings (L10 life) hr	100,000
Insulation class	F
Protection class	IP65
Protective devices	Temperature switch, PTC-F
Drive efficiency	IE3