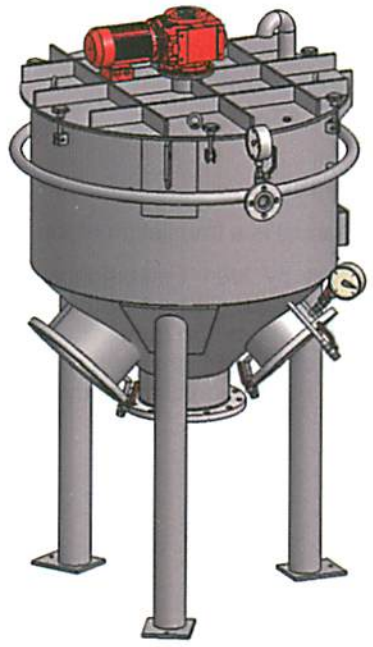
meri Entsorgungstechnik GmbH

Operation Manual
CONUSTRENNER® – CT 30



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Customer: SCA Tissue Flagstaff

Customer order number: 4500087318

Trademarks

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This manual is a translation of the original manual.

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3 TECHNICAL DATA

3.1 MACHINE DATA

Type plate

Transfer the technical data of your CONUSTRENNER from the type plate to the figure below. Normally you will find the type plate on the cover next to the gear motor. This way, you always have quick access to the data when you need it.

Fig. 3-1 Type plate

Total dimensions

Height	mm	3044
Diameter	mm	2000
Mesh size	µm	150
Operating weight	lbs	1620
Overflow weight	lbs	2950

Tab. 3-1 Total dimensions

Drive data

		Drive strainer basket
Manufacturer		SEW Eurodrive
Type		SAF67DT80K6-TF
Type of construction		M5A
Power	hp	0.50
Voltage	V	460
Current	A	4.2
Protection class		IP55
Motor speed (60 Hz)	rpm	3.7
Frequency	Hz	60
Noise level		less than 75 dB (A)

Tab. 3-2 Drive data

3.2 OPERATING DATA

Process data

Operating pressure range	psi	13-17
Nominal operating pressure	psi	14.5
Flow rate under operating pressure	gpm	250
Required spray-water pressure	psi	45
Inlet mass flow	bdstpd	8.0
Inlet consistency	%	.53
Spray-water consumption	gpm	17
Spray-water quality (requirement for TS content)	ppm	<100
Spray-water quality (requirement for particle size)	µm	<100
Application	Fiber Recovery	

Tab. 3-3 Process data

4 TECHNICAL DESCRIPTION

4.1 MAIN COMPONENTS

The figure below describes the main components of the CONUSTRENNER and names the most important connections. The figure shows an example model, in some models the ring pipeline of the cleaning system may be inside the tank.

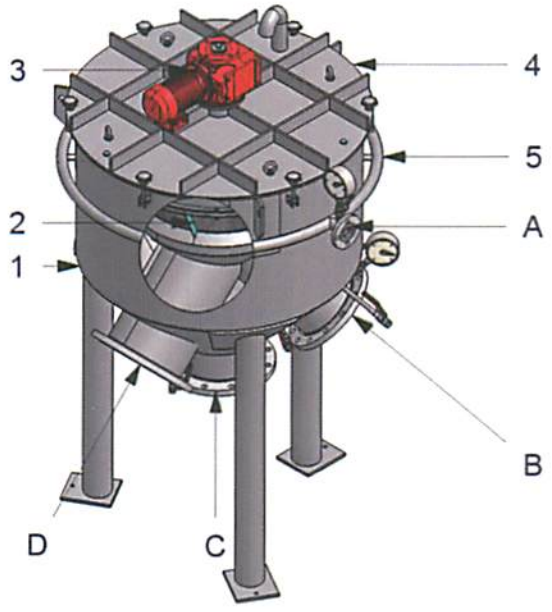


Fig. 4-1 Main components

1 tank
2 strainer basket
3 drive
4 cover
5 cleaning system

A spray-water inlet
B raw water inlet
C fine fraction outlet
D coarse fraction outlet

4.2 COMPONENTS

4.2.1 TANK

This component consists of the outer tank wall and feet with floor plates as well as the internal funnels. The innermost funnel is the inlet. In the middle funnel, the coarse fraction funnel, the solids trapped by the mesh are discharged downwards. In the outer funnel, the fine fraction funnel, the water-solid mixture passing through the mesh is discharged downwards.

The figure below shows the tank with the sub-components:

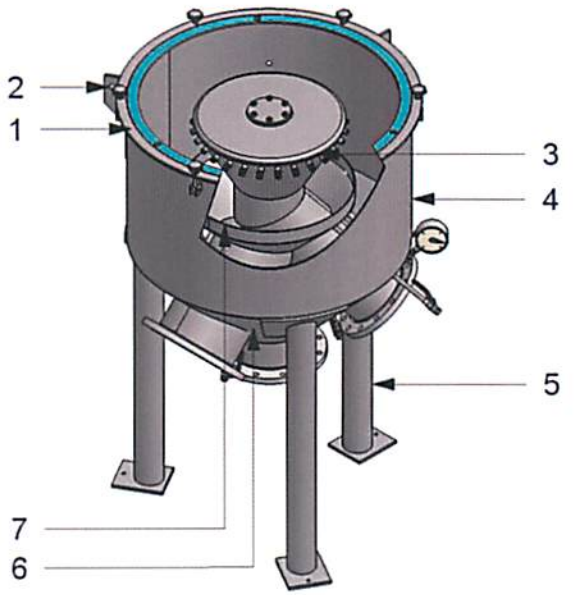


Fig.. 4-2 Tank

1 all-round gasket (foam rubber)
2 lifting butt straps
3 inlet cone
4 tank wall
5 feet with floor plates
6 fine fraction funnel
7 coarse fraction funnel

4.2.2 Cover Unit with Strainer Basket and Drive

The cover, strainer basket cover, strainer basket and drive can be removed as a complete unit.

The figure below shows this unit with its sub-components:

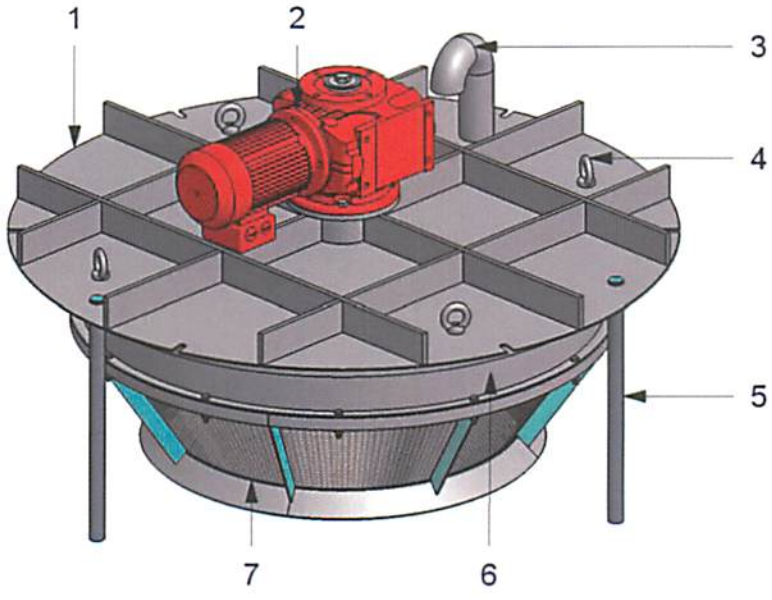


Fig. 4-3 Cover unit

1 cover
2 drive
3 venting pipe
4 cover lifting eyes
5 guide rods
6 strainer basket cover
7 strainer basket

4.2.3 STRAINER BASKET COVER

The figure below shows the strainer basket cover with its sub-components:

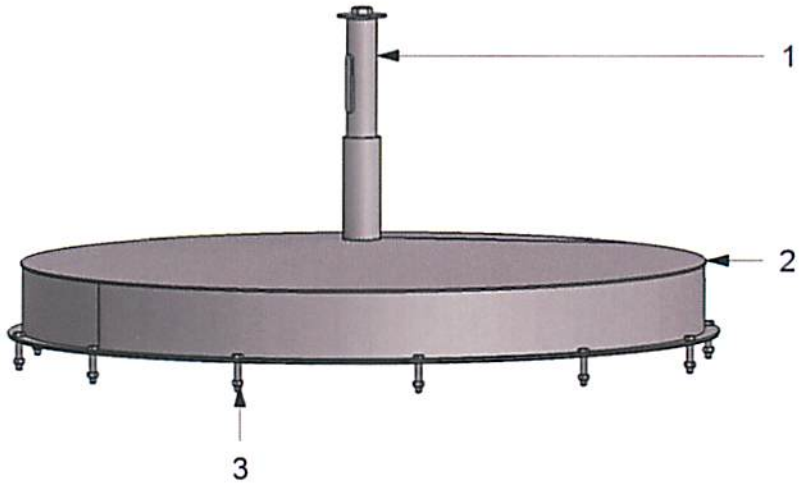


Fig. 4-4 Strainer basket cover

1 shaft
2 drive flange (strainer basket cover)
3 fastening (screw connections)

4.2.4 STRAINER BASKET

The strainer basket consists of a special stainless steel mesh welded between a profile tube ring for locating in the strainer basket cover and the collar ring for the fraction separation.

The mesh width may be between 20 and 300 µm depending on the customer application.

The figure below shows the strainer basket with its sub-components:

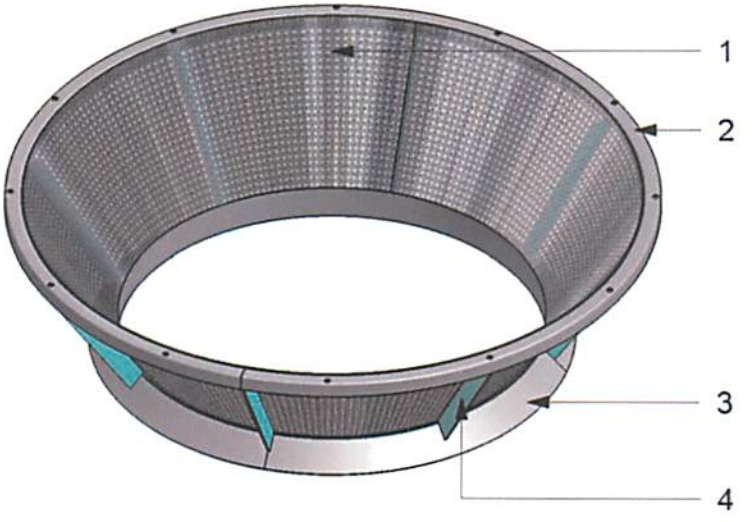


Fig. 4-5 Strainer basket

1 mesh
2 profile tube ring
3 collar ring
4 strut

4.2.5 INLET CONE

The raw water is sprayed onto the rotating strainer basket by the spray nozzles in the conical inlet funnel in the center of the CONUSTRENNER. Depending on the machine size the number and rows of the nozzles varies. The inlet funnel is closed at the top and has an inspection opening.

The figure below shows the inlet cone with its sub-components:

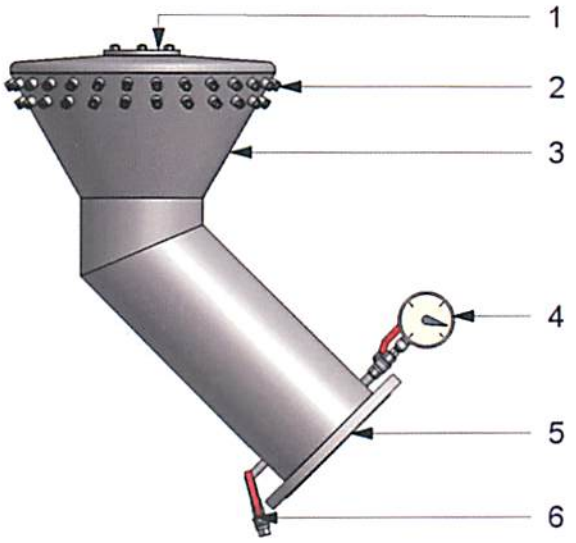


Fig. 4-6 Inlet cone

1 inspection opening
2 nozzles (raw water)
3 cone
4 gauge with ball cock
5 connecting flange
6 ball cock (sampling)

4.2.6 CLEANING SYSTEM

The spray water nozzles are installed between the strainer basket and the tank wall and are supplied by a ring pipeline; this may be inside or outside the tank depending on the model.

The spray water is sprayed against the flow direction onto the strainer basket. The deposits are therefore loosened on the inside of the mesh and fall into the coarse fraction funnel.

The figure below shows the cleaning system with its sub-components:

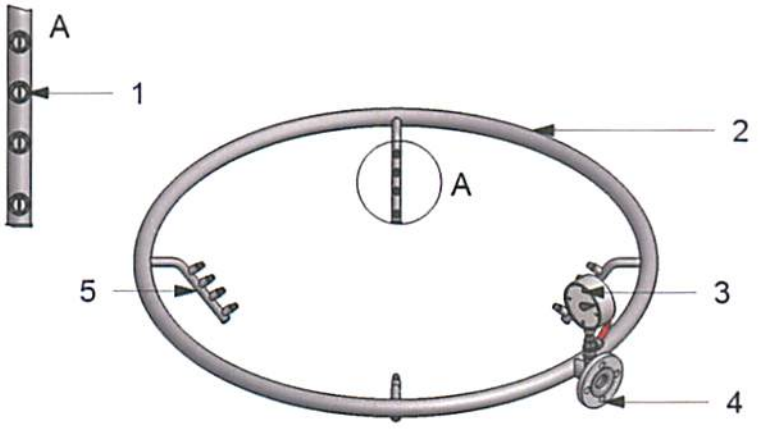


Fig. 4-7 Cleaning system

1 spray nozzles
2 ring pipeline
3 pressure gauge with ball cock
4 connecting flange spray-water
5 spray pipe

4.3 OPERATING PRINCIPLE

The CONUSTRENNER is a self-cleaning fractionating device for a wide range of applications such as:

- ash control
- fiber fractionating
- reduction of residual quantities
- loss minimization
- water circuit constriction
- fiber recovery.

The filtrate to be treated is sprayed through horizontally arranged nozzles from the inside onto the slowly rotating conical strainer basket with approx. 1 bar pre-pressure (➲ see the figure below).

To prevent blockages, the strainer basket is cleaned continuously from the outside with spray-water.

The coarse fraction is drawn off at the center of the device whilst the fine fraction is collected and discharged outside the strainer basket.

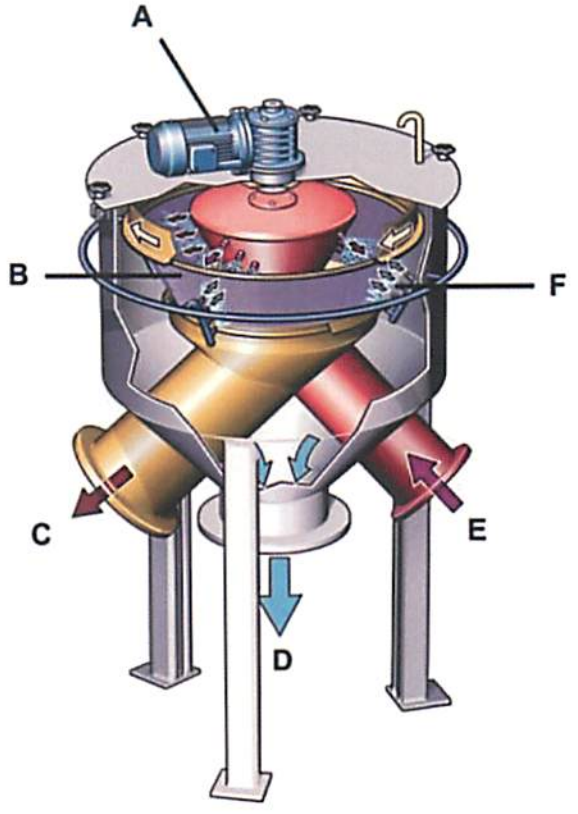
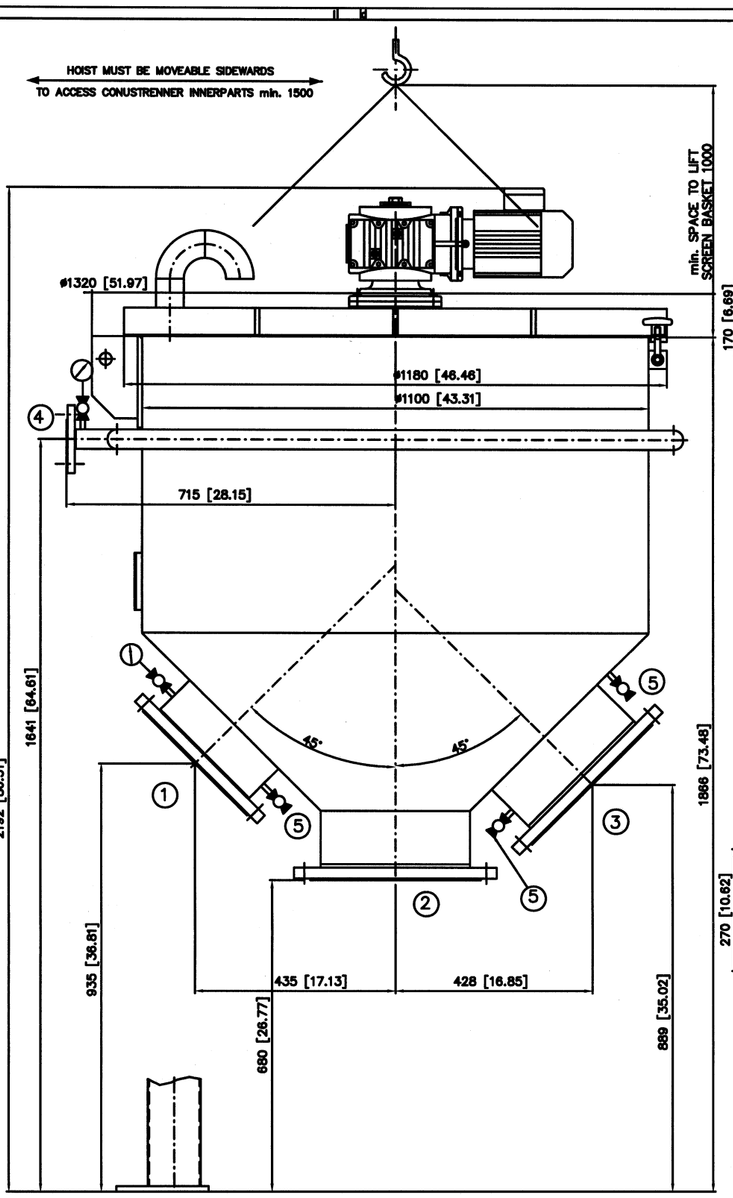
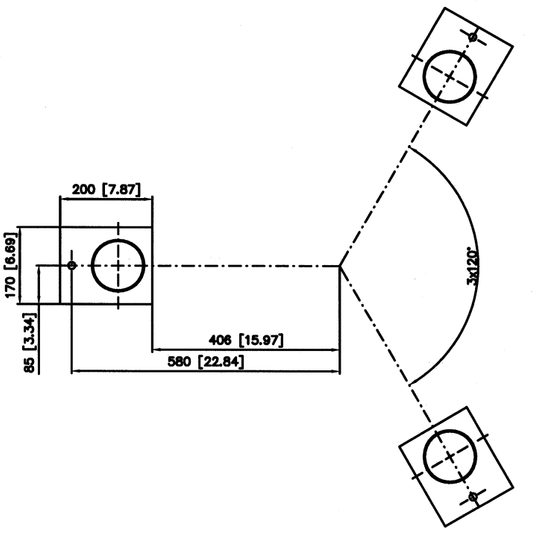
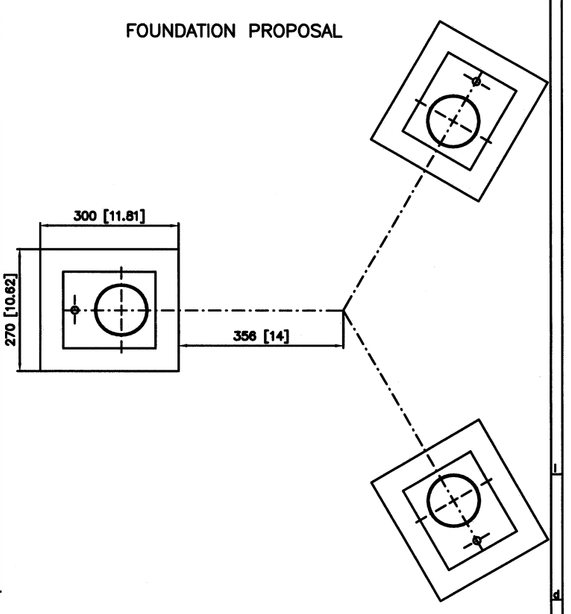


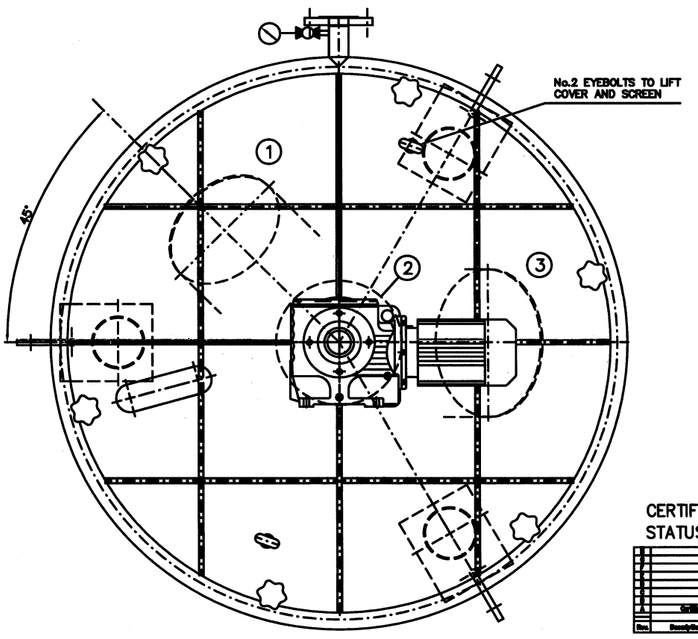
Fig. 4-8 Operating principle

A motor
B strainer basket
C coarse fraction
D fine fraction
E inlet
F spray-water









NOTE: NO LOAD ON MACHINE FLANGES
PIPES MUST BE SUPPORTED PROPERLY

SCREEN BASKET MOTOR	
POWER	0.37 KW (1/2 HP)
SPEED	5 rpm
PRODUCER	SEW
TYPE	SAF67DT80K6-TF

		OPERATING WEIGHT		~735 kg (1620 lb)
		OVERFLOW WEIGHT		~1335 kg (2950 lb)
		SCREEN WEIGHT		~150 kg (330 lb)
		SPRAYWATER CONSUMPTION		63 l/min 3bar (17gpm 45psi)
5	3	SAMPLE POINT	---	1/2"
4	1	SPRAY WATER CONNECTION	---	1 1/4"
3	1	COARSE FRACTION	---	12"
2	1	FINE FRACTION	---	12"
1	1	INLET	---	10"
Pos.	No.	Description	Material	Dimensions

CERTIFIED
STATUS: 27.08.07

Customer	SCA TISSUE FLAGSTAFF
Title	MACHINE DRAWING CONUSTRENNER 30 ASSEMBLY
Merl Order	07724
Drawing No.	01806
Project Code	07724
Material No.	304 ss
Scale	1:5
Size	A1
Sheet	1
Dwg.-No.	ASA2-FS2/1
File	ASA2-FS2

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A Joint Venture between VOITH PAPER and Merl Anlagentechnik

CONUSTRENNER 30 (2)/ELEPHANT FILTER 10.16
FLOWSHEET

LEGEND

SYMBOL NOTES

GRAPHIC SYMBOLS DIN 28004, DIN2429

- M MOTOR
- P PUMP
- RI RINGINJECTOR
- BV BALL VALVE
- CV CONTROL VALVE
- KV KNIFE VALVE
- SV SOLENOID VALVE
- S SAMPLE VALVE
- V VALVE

NORMAL POSITION OPEN

NORMAL POSITION CLOSED

RINGINJECTOR

FLOWMETER (DM)

FLOWMETER (ROTAMETER)

PIPE CROSSING UNCONNECTED

PIPE CROSSING CONNECTED

PIPE REDUCTION

PIPE ENLARGEMENT

ELECTRICAL AND MEASUREMENT NOTES

DIN 19227/1, ISO 3511/1

F = FUNCTION, X = GROUP NUMBER
zz = COUNTING NUMBER

FLOW CONTROL VALVE

LEVEL INDICATION AND ALARM

FLOW INDICATION AND CONTROL

LEVEL TRANSMITTER

FLOW INDICATION

FLOW TRANSMITTER

FLOW RATIO INDICATION AND CONTROL

FREQUENCY (INDICATION AND) CONTROL

QUALITY SLUDGE DENSITY

QUALITY TURBIDITY REGISTRATION

CONSISTENCY SLUDGE INDICATION AND CONTROL

GROUP 02Axxx : CT 30 (pm/f5)
GROUP 03Axxx : CT 30 (pm/f6)
GROUP 04Axxx : ELEPHANT 10.16
GROUP 02.1xx : FEED CT 30 (pm/f5)
GROUP 03.1xx : FEED CT 30 (pm/f6)
GROUP 02.2xx : COARSE FLOW CT 30 (pm/f5)
GROUP 03.2xx : COARSE FLOW CT 30 (pm/f6)
GROUP 02.3xx : FINE FLOW CT 30 (pm/f5)
GROUP 03.3xx : FINE FLOW CT 30 (pm/f6)
GROUP 04.1xx : FEED ELEPHANT
GROUP 04.2xx : FILTRATE ELEPHANT
GROUP 02.4xx : SHOWER WATER CT 30 (pm/f5)
GROUP 03.4xx : SHOWER WATER CT 30 (pm/f6)
GROUP 04.3xx : SHOWER WATER ELEPHANT

NUMBER OF PUMP
Q = GPM
H = TDH
HP bal.

S= Sampling point; take into consideration 1" Ball valve

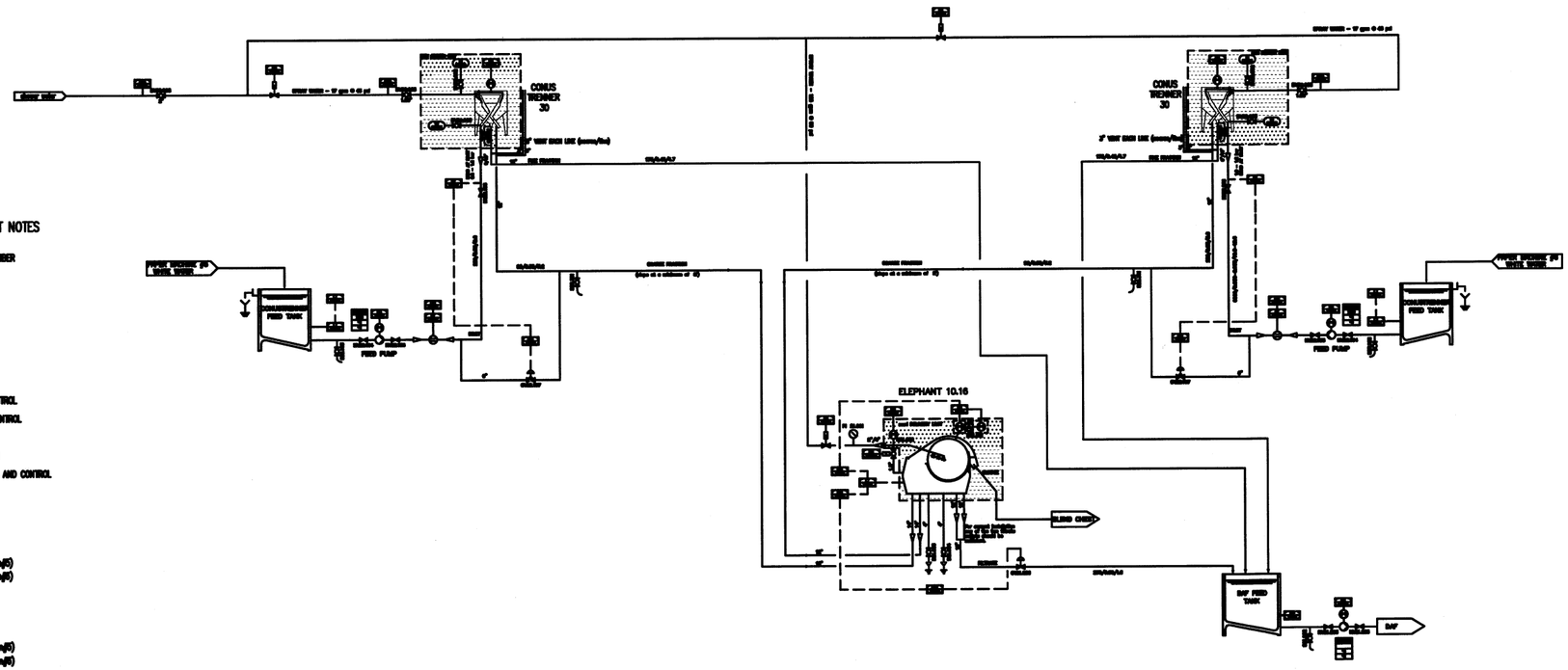
PIPING NOTES

FLOW VELOCITIES:
vf1 = 3.3 ft/s
vf2 = 1.6 ft/s
vf3 = 0.8 ft/s

gpm / ppm / bdstpd

GENERAL NOTES

1) LOAD AT INLET FILTER 0.2 bar
2) NO PROCESS ALARMS IN LIST
3) FEED : mf30
*) TO BE SPECIFIED



FOR APPROVAL
STATUS: 23.05.07

No.	Description	Date	Name

VOITH EQUIPMENT No.:	MATERIAL No.:	VOITH Order: 07724-FS2
Customer: SCA TISSUE FLAGSTAFF, AZ	Project Order: 07724	MERI Entsorgungstechnik GmbH Landwiesstraße 55 85673 Aßling Germany Tel.: +49/80/9033144 Fax.: +49/80/9033870
Title: CONUSTRENNER ELEPHANT FILTER FLOWSHEET	Scale: – Size: A1 Rev.:	Dwg.-No.: FSA1-FS2/1 File: FSA1-FS2

merl Entsorgungstechnik GmbH