

SAND SOLUTIONS

Sand Filters / Sand Cyclones / Sand Flowback

67

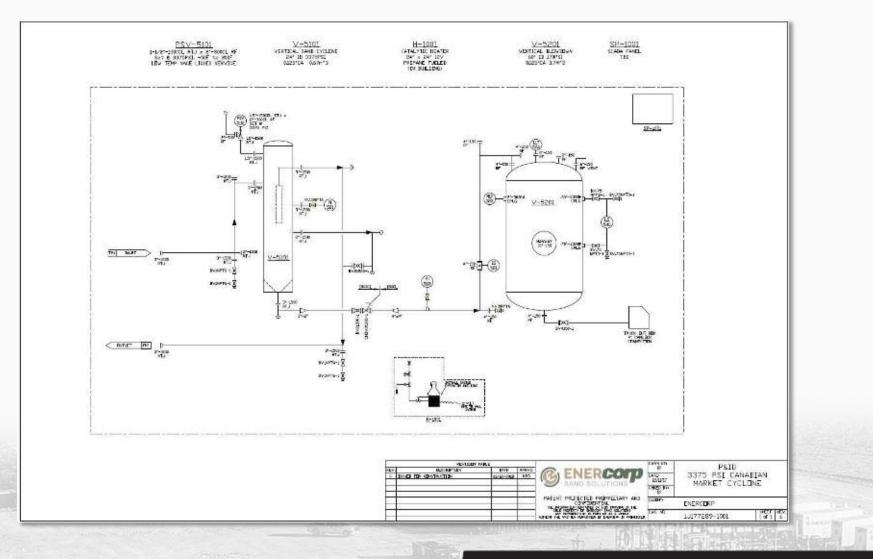


3k Cyclone Combo

# PROVIDING SAND SOLUTION TECHNOLOGY & SERVICE

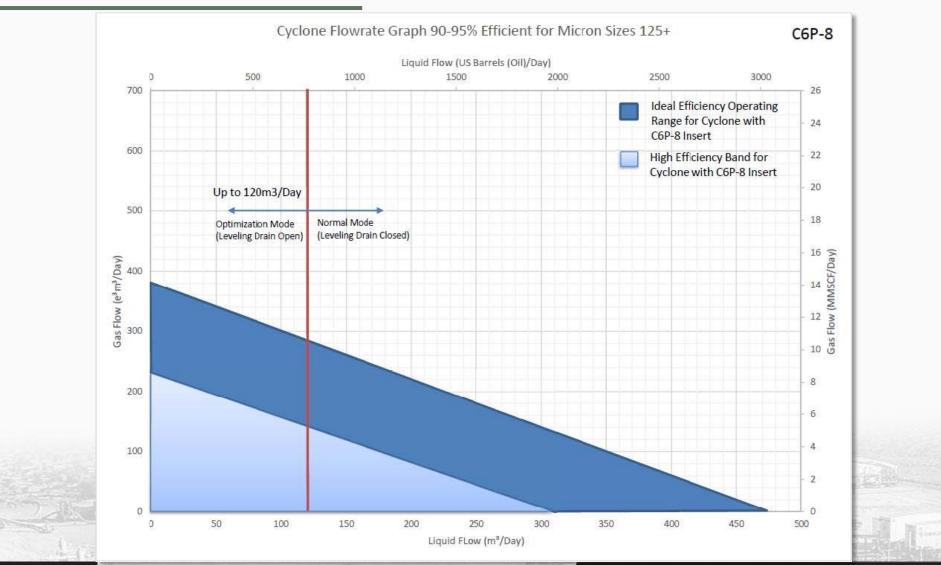


## 3k Cyclone Combo P&ID



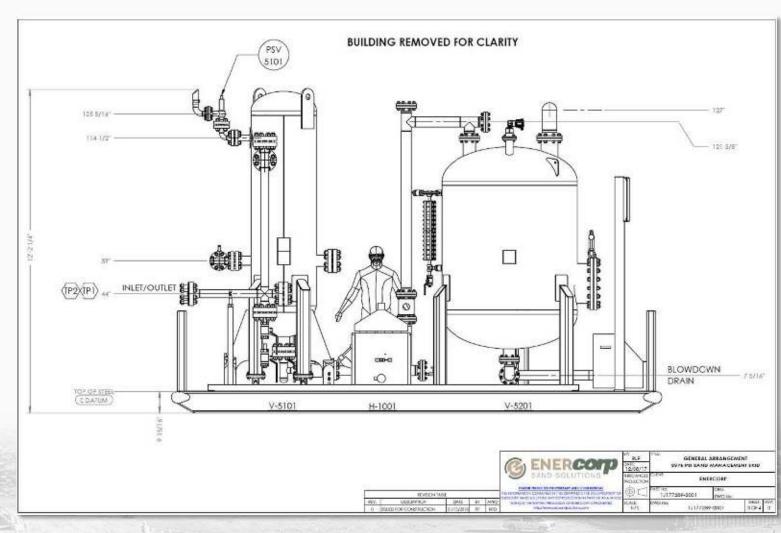


## 3k Cyclone Combo Flow Rate Graph





## 3k Cyclone Combo Layout



### SUMMARY OF THE 3-5K CYCLONE

Benefits of the EnerCorp Cyclone Units:

#### Scales under Cyclone vessel

- Allows operator to see when Cyclone requires Blowdown
- Weight chart for optimal efficiency and recommended blowdown
- Tied to SCADA for operator call out

#### SCADA Panel

- Tracks Blowdown frequency
- · Tracks accumulative weight
- Blowdown vessel volumes
- Operator call out

#### **LLT Level Transmitter**

- Indicates Blowdown vessel volume
- Tied to SCADA for operator call out

#### **SOR Level Switch**

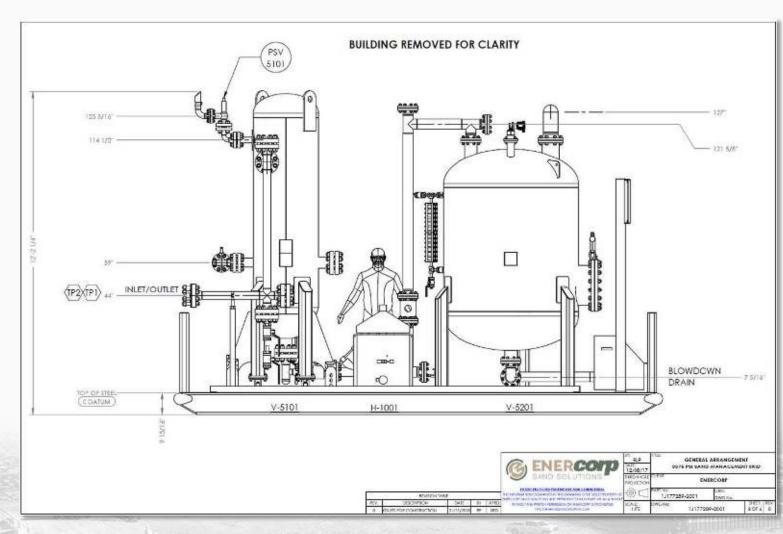
- Secondary backup for LLT
- · Tied to SCADA for operator call out

ENERCOP

### Sand Filters

### Sand Cyclones | Sand Flowback

# 3k Cyclone Combo Layout cont'd.



### SUMMARY OF THE 3-5K CYCLONE CONT'D

#### Site Glass on Blowdown Tank

• Visual for volume in tank

#### Site Glass spool on Blowdown Line

Visual for sand when Blowing down Cyclone vessel

#### **Choke Valve**

- Minimal moving parts
- Durable

#### Large building with 24"x24" CAT heater 12V

- Will assist with battery life from cold temperatures
- Large heater to keep all lines from freezing

#### **Detailed SOP**

Sand Filters

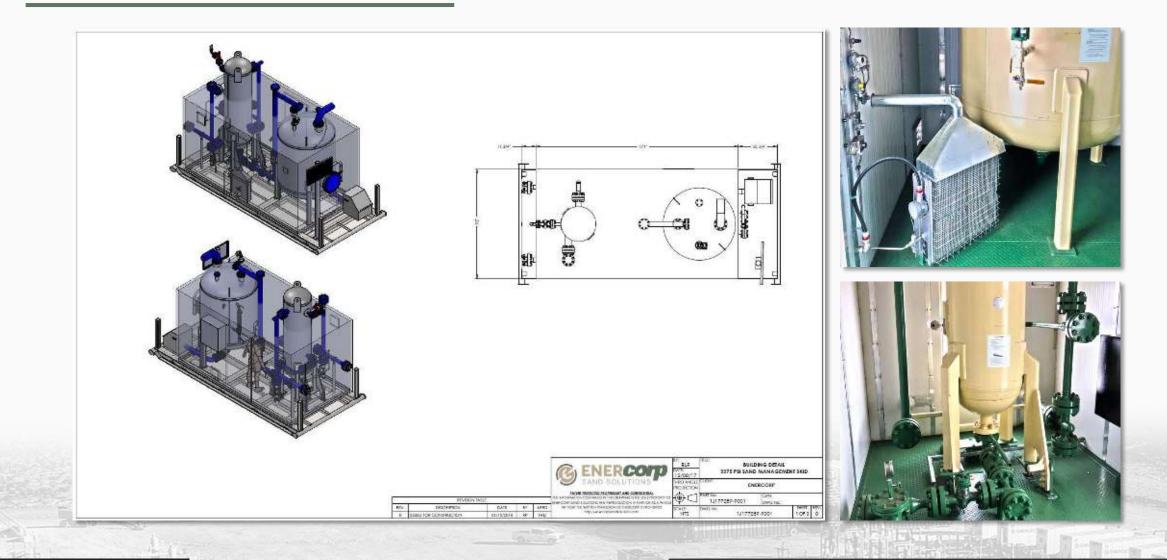
• Full SOP sent with each package for operator reference

Sand Cyclones / Sand Flowback

- Field Assistance
- Start up assistance, free of charge

### ENERCOP

## 3k Cyclone Combo 3D GA





## 3k Cyclone Combo 3D Without Building





## 3k Cyclone Combo Weigh Scale

3000PSI 24" CYCLONE 0.74m3 TOTAL VOLUME (750 KG Full Vessel Volume)			LEVELING VALVE CLOSED		
SAND SOLUTIONS	LEVEL (%)	WATER THEORETICAL WEIGHTS (kg)	CONDENSATE THEORETICAL WEIGHTS (kg)	VESSEL VOLUME (L)	VESSEL LEVEL (IN)
WATER LEVEL	0%	0	0	0	0
	20%	104	95	90	16
	40%	195	155	180	28
	60%	320	220	270	40
	80%	370	280	360	52
	100%	490	345	445	65
S A N D L E V E L	0%	490	345	0	0
	20%	530	395	42	9
	40%	560	445	84	15
	60%	600	500	126	21
	80%	640	550	168	26
	100%	685	600	210	32
RECOMMENDED BLOWDOWN OF CYCLON	640 KG - 685 KG (WHEN MAJORITY OF FLUIDS ARE WATER)				
RECOMMENDED BLOWDOWN OF CYCLON	IE BETWEEN	550 KG - 600 KG	KG - 600 KG (WHEN MAJORITY OF FLUIDS ARE CONDI)		





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