CLEAN OIL
BRIGHT IDEAS

HDU 4x27/108 - Gear Flushing Unit

CJC™ Offline to Offline Fine Filter & Flushing System for Wind Turbine Gearboxes

CJC™ Product Sheet

APPLICATION

The CJC™ Gear Flushing Unit is constructed for flushing of renovated or new wind turbine gears with an oil volume in the range 100-500 L.

FUNCTION

Offline to Offline Filtration - "Optimum Filtration and Flushing - in One System"

To get a continuous and uninterrupted filtration of the flushing oil the system is divided into two offline systems. One system takes care of the flushing. The flushing is performed with a pump flow of approx. 7000 L/h circulating the gearbox volume of approx. 300 L of oil many times through the system.
An offline filter system with 4 parallel connected HDU 27/108 stays is build on to the flushing system. The filtration system is running at a higher flow rate, than the flushing system, and will not be stopped, when a gear is disconnected. This secures optimum filtration.
A built in **CJC™ Particle Monitor** makes it possible to do monitoring and logging of the oil cleanliness during the whole gear flushing process.
The CJC™ Gear Flushing Unit has an automatic flushing process feature, which saves time. Type in gear oil volume and desired oil cleanliness, push START and the gear flushing process will run fully automatic.

THE FILTER / FLUSHING PUMP

The filter/flushing pump is a low noise non pulsation and long life positive displacement screw pump, special designed for handling gear oil.

OPTIONS

Report Generation Tool:

- Graph with cleanliness ISO 4, ISO 6 and ISO 14
- Flushing time
- Flushing serial number

Communication with test bench system (automatic flushing).

FILTRATION ABILITY

- **Particle Removal**
  All CJC™ Filter Inserts have the following filtration degree:
  - **3 µm absolute:**
    98.7% of all solid particles > 3 µm
  - **0.8 µm nominal:**
    50% of all solid particles > 0.8 µm

  are retained in each pass.
  The dirt holding capacity is 64 L of evenly distributed solids.
- **Degradation Products**
  Oxidation products, resin / sludge, and varnish are retained by the cellulose material, which will retain appr. 64 kgs of oil degradation products.
- **Water Removal**
  The water absorption potential is up to 50% of the total contaminant holding capacity.

The CJC™ Fine Filter HDU 4x27/108 YY Gear Flushing Unit

TECHNICAL DATA

		HDU 4x27/108
Pump flow (flushing) max.	ltr/gal	7000 / 1850
Pump flow (filter) max.	ltr/gal	7000 / 1850
Pump type		Low noise screw pump
Pump inlet pressure, max.	bar/psi	0.5 / 7
Filter Inserts 27/27	pcs.	16
Power consumption, aver.	kW	39
Preheater power	kW	2 x 9
Pressure drop, max.	bar/psi	1.8 / 26
Oil temperature, max.	°C/°F	80 / 176
Dirt hold. capacity, appr.	ltr/gal	
Water absorption capacity	ltr/gal	
Dry weight	kg/lb	1500 / 3308
Design pressure	bar/psi	4 / 58
Ambient temp. max	°C/°F	40 / 104

APPLICABLE FILTER INSERTS

Type	Application for
C	Gear oils at high flow rates with air bobbles

CLEAN OIL
BRIGHT IDEAS

HDU 4x27/108 - Gear Flushing Unit

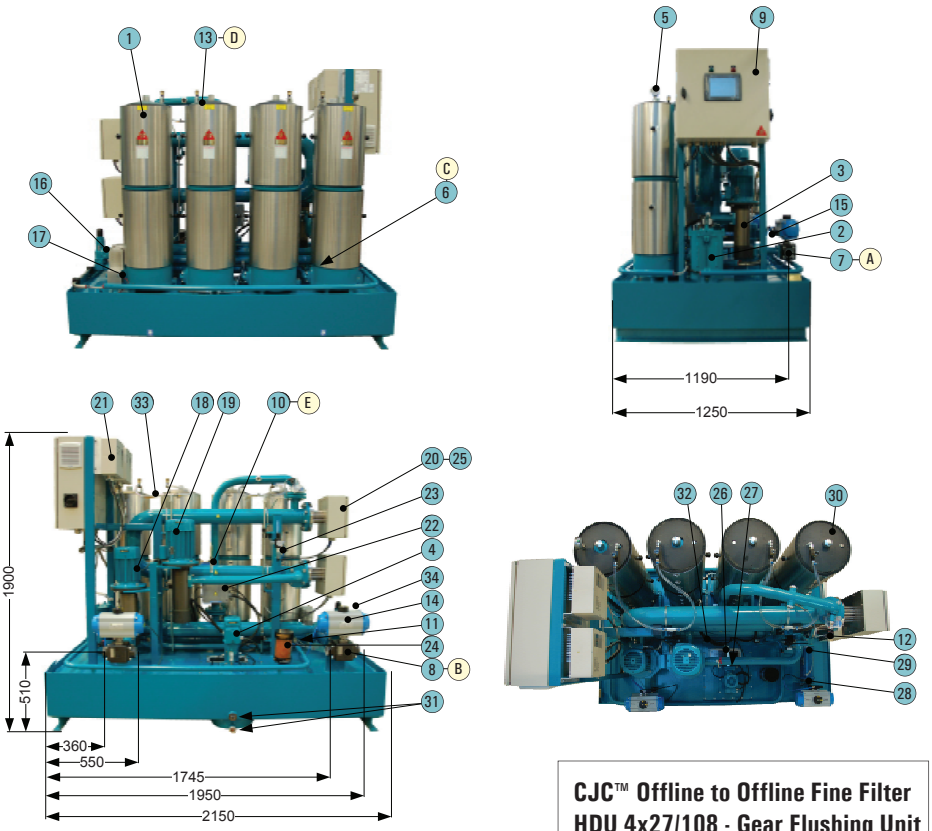
CJC™ Offline to Offline Fine Filter & Flushing System for Wind Turbine Gearboxes

CJC™ Product Sheet

COMPONENTS

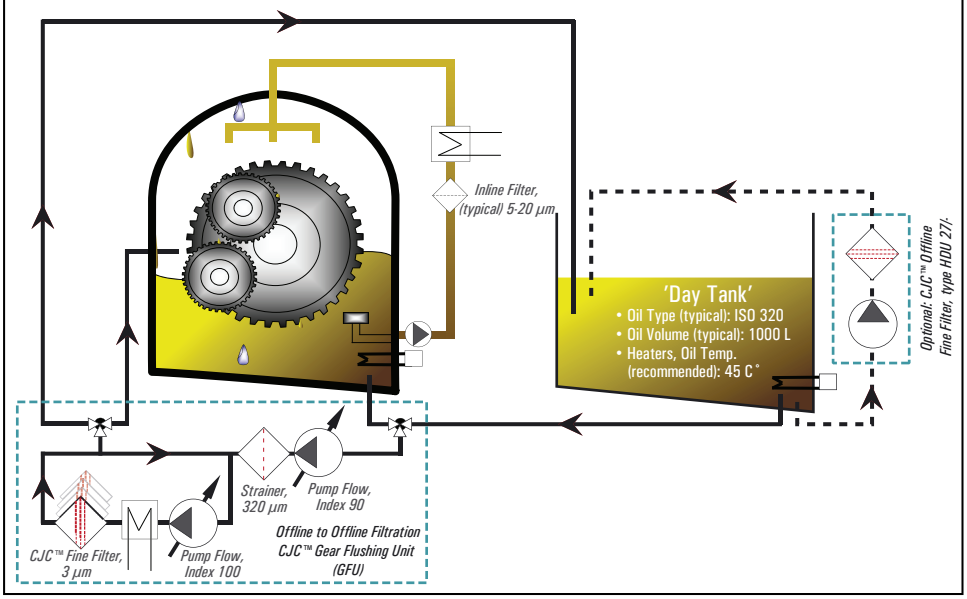
Item	Part
1	CJC Fine Filter 4 x HDU 27/108
2	Filter duplex DN 40 320 µm
3	Pump type GR SMT 210 L SNVRF3 OX (3x400v 50Hz)
4	Pump PV 4-18-4
5	Pressure gauge 0-4 bar
6	Drain ball valve DN20
7	HDU oil inlet 2" BSP
8	HDU oil outlet 2" BSP
9	Control box
10	Sampling point
11	Pressure transmitter
12	Temperature transmitter
13	Throttle needle valve 1/4"
14	Actuator AT 351 SR
15	EGO valve 551 3/2
16	Overflow valve Kracht
17	CJC™ Particle Monitor
18	Motor VEM K21 R100 L4 B5 2,2kW 3x400V 50Hz
19	Motor VEM K21 R100 B5 3kW 3x400V 50Hz
20	Heater 3x400V 9kW JEVI
21	Freq. inventer Omron 4kW
22	Solid state relay
23	Exelon Filter / regulator
24	Silica gel breather
25	Thermal switch 110°
26	Junction box
27	Check valve ½" 0.5 bar
28	Check valve DN40
29	Flowmeter Kral DN40 PN16
30	Armaflex isolation jacket
31	Sight glass
32	Drain hose
33	Clear venting hose
34	Inductive actuator sensor
A	2" BSP, oil inlet
B	2" BSP, oil outlet
C	Drain ball valve
D	Throttle valve
E	Sampling point

DIMENSIONS



CJC™ Offline to Offline Fine Filter
HDU 4x27/108 - Gear Flushing Unit
Measurements in mm

INSTALLATION PRINCIPLE



C.C.JENSEN A/S
Løvholmen 13 • DK-5700 Svendborg • Denmark
Phone: +45 6321 2014 • Fax: +45 6222 4615
filter@cjc.dk • www.cjc.dk