

OA800M Mobilizable OAS



OA800M



Mobile Application

Focal length: 500 mm
Detectors: 8 pieces CCD



Build-in System

Built-in Touch Screen, Keyboard,
Sharpener, Scanner



Mobile box

Testing on-site



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Agence Sud:

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Agence Est:

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OA800M Portable Mobile Box



OA800M Portable Mobile Box

Universal Wheel

OA800M

Power Bank Ca



ary Table
(Cover)

Super Thick
Protective Cotton



Super Thick Protective Cotton

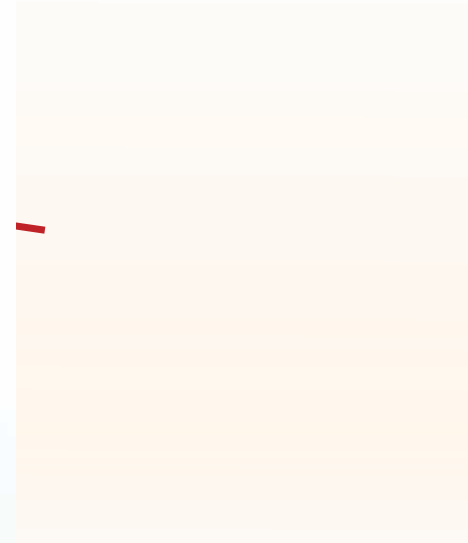
Power Bank



Universal



Temporary Table
(Case Cover)



Power Bank Cabinet



Universal W



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(se Cover)

Super Thick
Protective Cotton



Consumable Cabinet

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Power Bank



Universal



Temporary Table
(Case Cover)

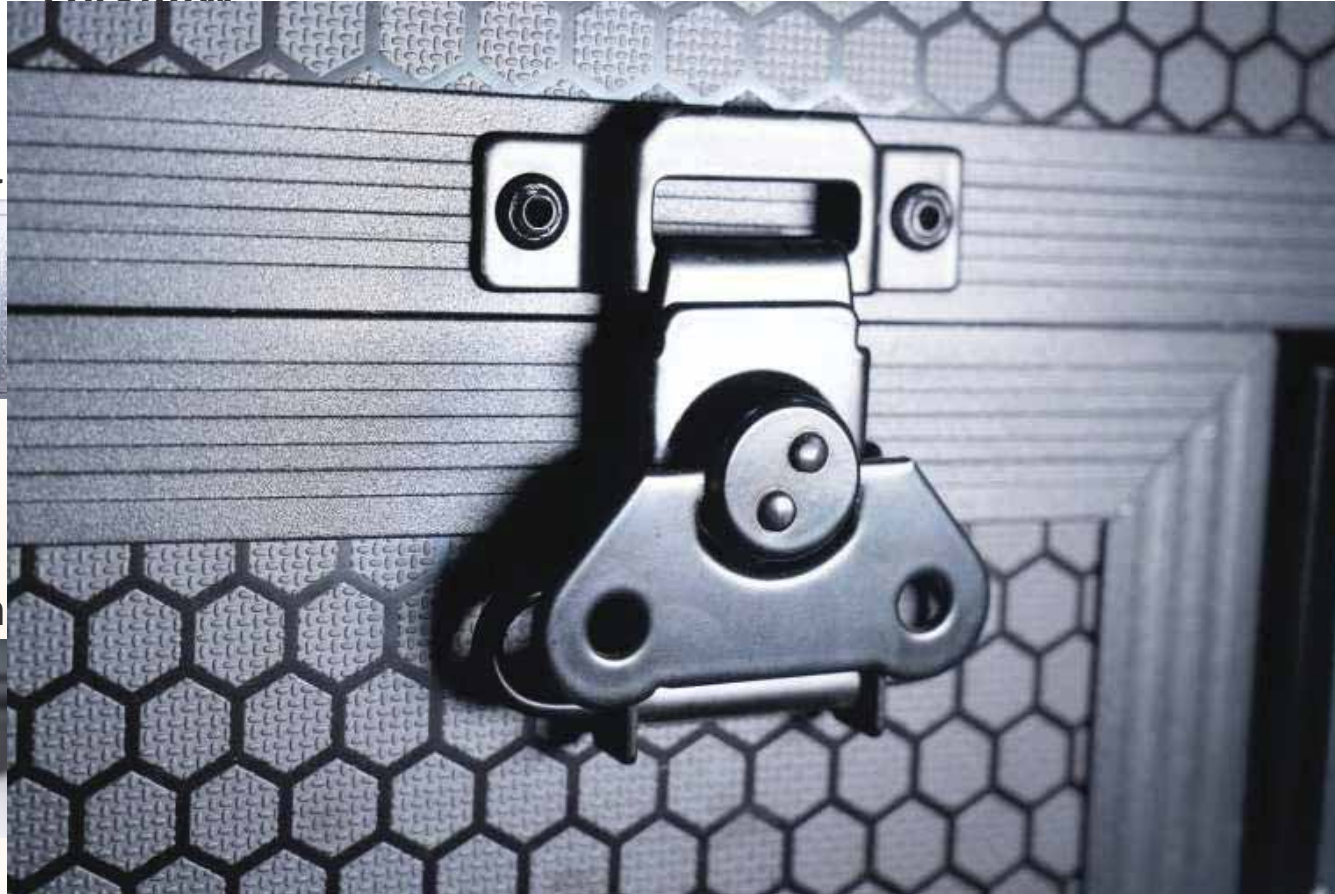
Super Thick
Protective Cotton



Mini-lab on Move

Lockset

CA800M



Power Bank Ca



Universal Wh



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(Cover)

Super Thick
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OA800M Portable Mobile Box

Ellen Lu
(NOT FOR SALE)

OA800M

Power Bank Cabinet

Temporary Table
(Case Cover)

Super Thick
Protective Cotton

Wheel

Locks

Cabinet



Comparison of Key Parameters

Parameters	OA800H 	OA800M 	OA800P 
Detector	15 pieces CCD	8 pieces CCD	16 pieces CMOS
Focal length	500 m m	500 m m	750 m m
Dispersion	1.35 m m/n m	1.35 m m/n m	1.80 m m/n m
Physical parameters	80*60*42cm 70Kg	77*54*36cm 69Kg	104*70*46cm 125Kg
Chambers and its range	2 chambers 200nm ~ 470nm 470nm ~ 800nm	2 chambers 200nm ~ 470nm 470nm ~ 800nm	1 chamber 200nm ~ 800nm
Installation	Bench-top	Mobile	Bench-top

Comparison of General Features

Parameters	OA800H 	OA800M 	OA800P 
Up to 24 elements	√	√	√
Compliance to ASTM-D6595(Lube), and ASTM-D6728(fuel)	√	√	√
Constant Temp Control	√	√	√
Curve Calibration	√	√	√
Pixel Calibration	√	√	√
Repeatable and Sensitive	√	√	√

Comparison of General Features

Parameters	OA800H 	OA800M 	OA800P 
No Sample Preparation	√	√	√
No cooling water nor argon gas	√	√	√
Minimal Training	√	√	√
Low Cost per sample	√	√	√
Cost effective	√	√	√
Low Detection Limit (< 3ppm)	×	×	√
Fire-proof Cover	√	√	√
Laser Safety Detector	√	√	√

Comparison of Mobile Performance

Parameters	OA800H 	OA800M 	OA800P 
Designed for Frequent Transportation	×	✓	×
Compact and Light Weight	×	✓	×
Shock and Vibration Resistance	×	✓	×
Mobile Box for Easy Transportation	×	✓	×
All Tools Integrated	×	✓	×
Built-in Touch Screen, Keyboard, Sharpener, Scanner	×	✓	×

Application Field



Measure Range

No.	Elements	Element's symbol	Measuring Range (ppm)
1	Aluminum	Al	0-1000
2	Barium	Ba	0-6000
3	Boron	B	0-1000
4	Cadmium	Cd	0-1000
5	Calcium	Ca	0-6000
6	Chromium	Cr	0-1000
7	Copper	Cu	0-1000
8	Iron	Fe	0-1000
9	Lead	Pb	0-1000
10	Magnesium	Mg	0-6000
11	Manganese	Mn	0-1000
12	Molybdenum	Mo	0-1000
13	Nickel	Ni	0-1000
14	Phosphorus	P	0-6000
15	Silicon	Si	0-1000
16	Silver	Ag	0-1000
17	Sodium	Na	0-6000
18	Tin	Sn	0-1000
19	Titanium	Ti	0-1000
20	Vanadium	V	0-1000
21	Zinc	Zn	0-6000
22	Potassium	K	0-1000
23	Lithium	Li	0-1000
24	Antimony	Sb	0-1000

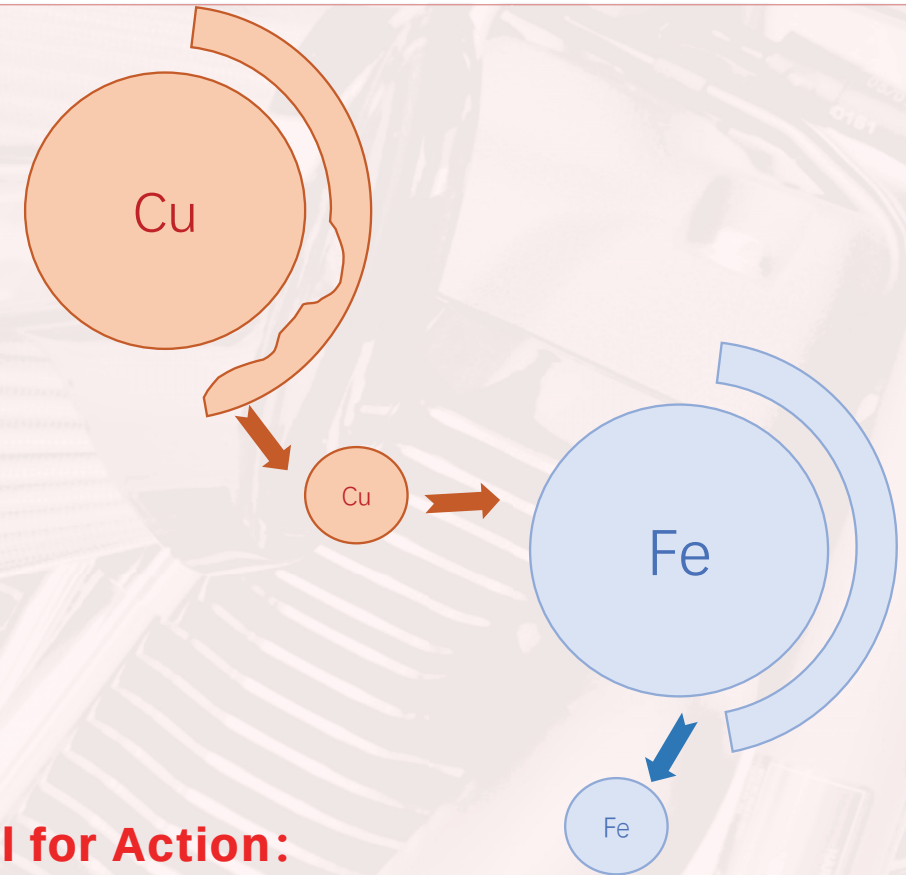
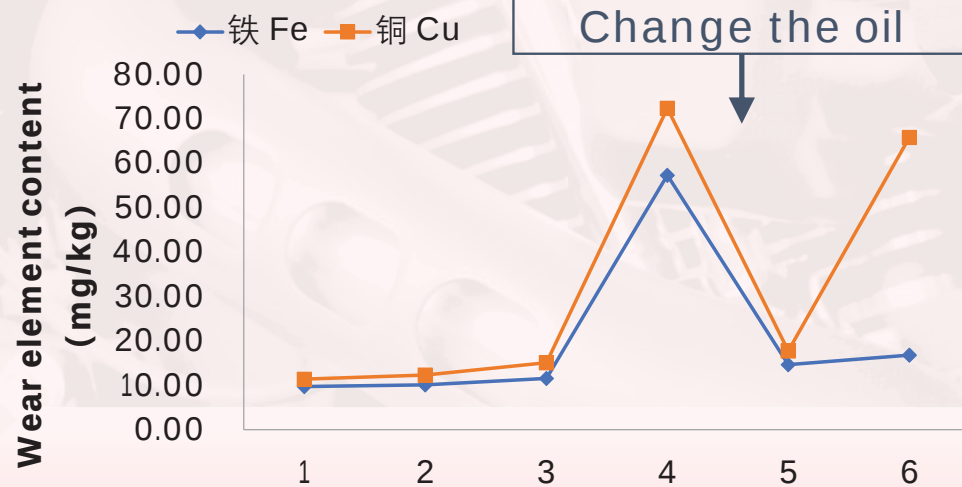
Main Sources of Some Detected Elements

No.	Elements	Main Source
1	Fe	Cylinder liner, bearing, valve, piston ring, crankshaft, CAM, rocker arm, gear, piston pin, etc.
2	Cu	Bearings, bushings, gears, oil coolers, valves, etc.
3	Al	Piston, bearing shell, box, bearing retainer, oil tank, oil pump, gasket, etc.
4	Pb	Bearings, bushings, seals, greases, etc.
5	Sn	Bearing, bushing, piston ring, welding parts, etc.
6	Ni	Bearing alloys, gas turbine blades, turbine blades, valves, etc.
7	Cr	Piston, cylinder liner, rolling bearing, etc.
8	Ag	Bearing retainer, plunger pump, gear, spindle, bearing, piston pin, etc.
9	Ti	Turbine blade, turbine support shaft, compressor wheel, etc.
10	Na	Coolant leakage, seawater contamination, grease, etc.
11	Si	Dust, seals, additives, etc.
12	Mg	Additives, aircraft engine or ship engine casing, etc.
13	Ca	Additives (dispersants), etc.
14	P	Additives, coolant leakage, etc.
15	Ba	Additives
16	Zn	Additives (wear-resistant agents) ,Brass part, etc.

Case Study- Find The Broken Parts

Lubricating oil monitoring data of a diesel engine (unit: mg/kg)

No.	1	2	3	4	5	6
Fe	9.72	10.12	11.52	57.31	14.65	16.77
Cu	11.39	12.30	15.09	72.37	17.73	65.82



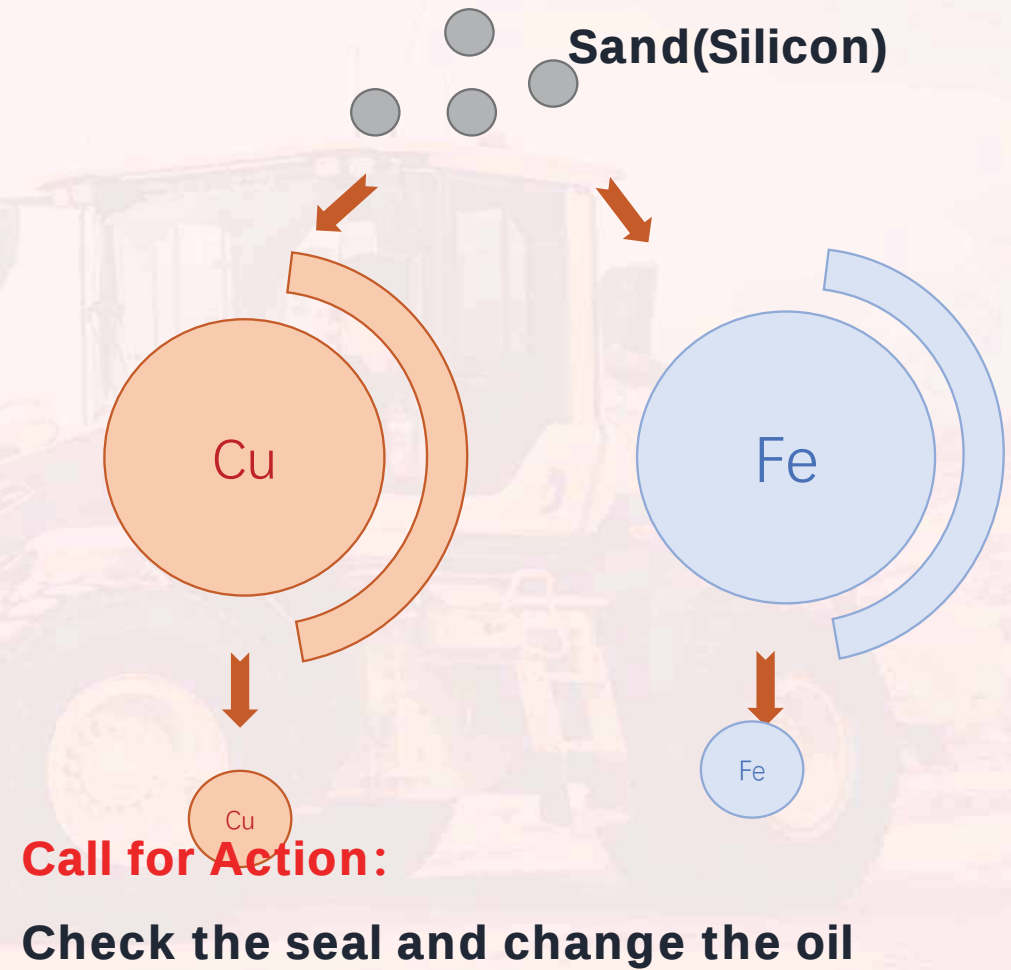
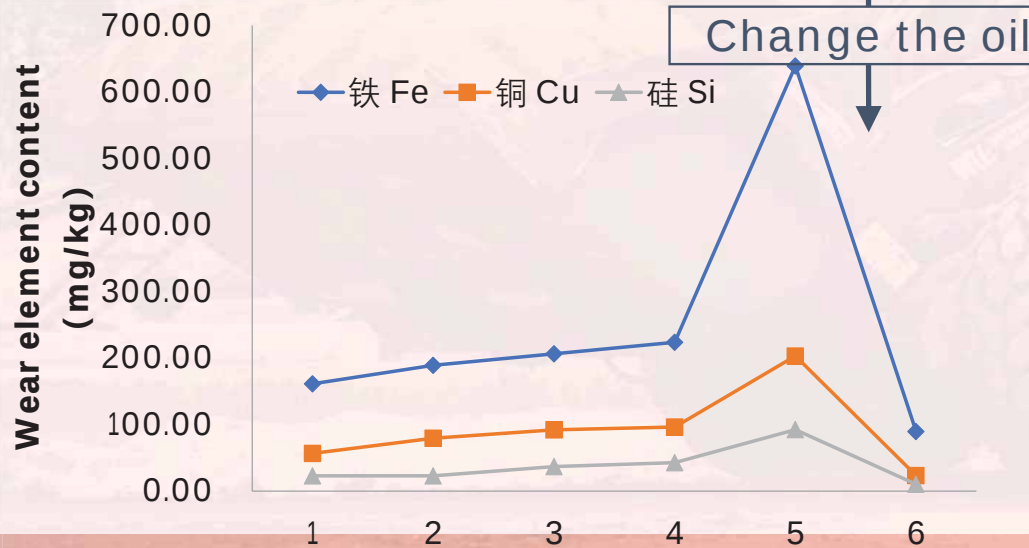
Call for Action:

Check all Cu component to find the broken parts

Case Study- Find The Pollution Elements

Monitoring data of mining car transmission lubricating oil (unit: mg/kg)

No.	1	2	3	4	5	6
Fe	161.34	189.23	206.39	223.61	639.03	89.71
Cu	56.79	79.34	92.16	96.27	203.15	23.35
Si	22.97	23.11	37.10	42.95	92.37	10.32



Oil Fluid Detection Process



Detection Techniques of Metal Elements in Oil

NO.	Comparative item	RDE-OES (this project technology)	ICP-OES with oil injector	AAS
1	Test Time	2 mins	> 30mins	> 36 Hours
2	Pre-processing Requirement	No	Pre dilution or equip an oil injector	Digestion > 1 day
3	Detection Precision	ppm	ppb	ppb
4	Working on Site	Yes	No	No
5	Cooling Water and gases	No	Yes	Yes
6	Environmental conditions	Ship, work site	Laboratory conditions	Laboratory conditions
7	Factory Built-in Working Curve	Yes	No	No
8	Operator Requirement	Simple training	Professional	Professional

Consumables



Disc electrode



Rod electrode



Sample cup

Use every test



Standard Oil

Calibration