

# PFP Presentation

**PFP Application and Equipment**

**2013**



CoverCat provides a comprehensive range of equipment and services for specialist material applications. Over 300 PFP machines Supplied world-wide.



**CoverCat** by *Hyperion Equipment Limited*

CoverCat

- A UK Company
- UK, USA and Thailand offices
- Agents & Representatives world-wide
- Established since 1984 and over 300 systems supplied
- 29 years experience
- High Solids, Fast Cure material expertise
- Research & Development programme ongoing
- CoverCat OEM Design & Manufacture
- 3-D CAD / CAM Technology

www.covercat.com

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines



**CoverCat** by **Hyperion** *Equipment Limited*

CoverCat

- **A UK Company**

Hyperion Equipment Limited has exclusively acquired CoverCat products and equipment in a UK buy out through a stock purchase of the assets, rights and designs.

The new owners are investing and expanding the business with a development program and new distribution network being added to the existing group.

- **UK and USA offices**

The main facility is a UK based engineering design and assembly factory located in Stockton on Tees in the North East of England.

We have design and Manufacturing in house recently adding CNC machinery to the plant. The USA facility is a sales desk and spare parts access point

- **Thailand offices**

A new addition is the formation of CoverCat (Thailand) Co Ltd., in Rayong This will provide a South East Asia based local assembly and service centre A sales desk and spare parts facility is also being located here.

- **Agents & Representatives world-wide**

We are appointing a number of agents around the world to add to existing outlets

www.covercat.com

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines

**1984 to 1990**



**Original  
CoverCat  
Designs**

**1990 to 1999**



**Simplified  
Systems for  
Export Markets**

**2000 to 2003**



**Shipyard and  
Bulk supply  
systems**

**2004 to 2007**



**Internal  
Pipecoating  
Equipment**

**2008 to 2010**



**Pipe Coating  
Plant developed**

**2011 to 2012**



**Hyperion  
Equipment takes  
over**

**2013**



**CoverCat  
Thailand  
CoverCat Lining  
Solutions**

**CoverCat**



**30 Years of  
Engineering  
excellence**

Covercat

**PFP  
Passive  
Fire  
Protection  
Is  
One of Our core  
products**



**Bulk supply spraying**



**Trailer Mounted Pipelining rigs 2K Equipment**

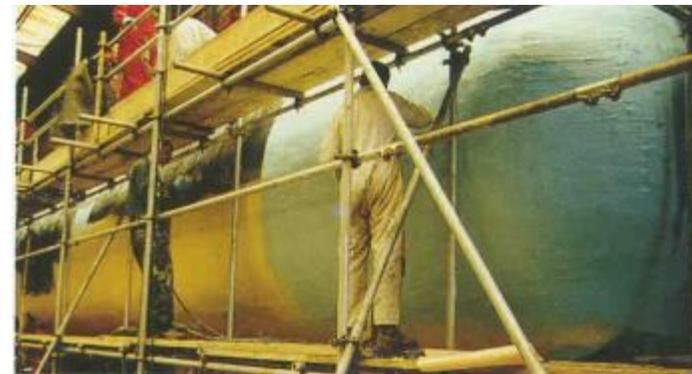


**Pipe Snake**

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines

CoverCat

# Passive Fire Protection



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**Application of PFP Intumescent epoxy resin to a structure will prevent early collapse in a fire and allow a significant amount of time to effect fire containment and rescue operations. It will also provide corrosion protection and minimal maintenance over 25 years.**

CoverCat



**Application of  
PFP Intumescent  
epoxy resin with  
Composite fibre  
reinforcement  
mesh  
using Covercat  
PFP  
Solvent free  
application  
equipment**



**Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines**

## Spray Application



**Heated solvent free spray applications in both open and confined areas**



**Work area Open area preparation and masking are primary work area activities from large to small applications**





## *PFP application*

CoverCat

**Spraying the first coat on a prepared area with a suitable primer and masking area of adjacent structures**

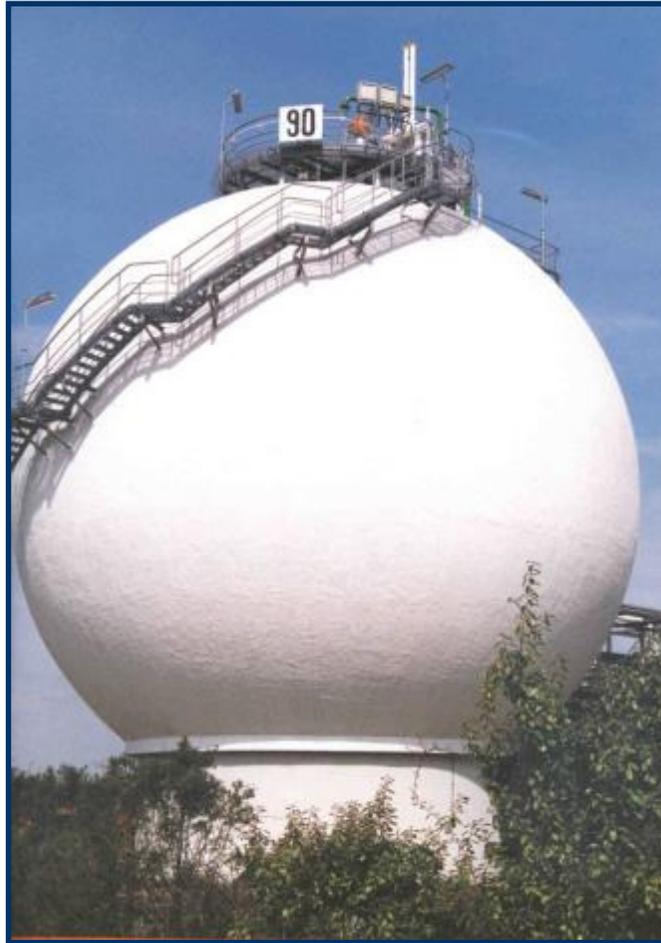


**Applying the mesh and rolling it into the base coat**



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**Passive Fire Protection**



**Completed works from onshore storage sphere to offshore and pipe rack works**



**CoverCat 451 & 351 Systems introduced in 1994**

**Strong, Reliable and very popular  
semi automated machines**

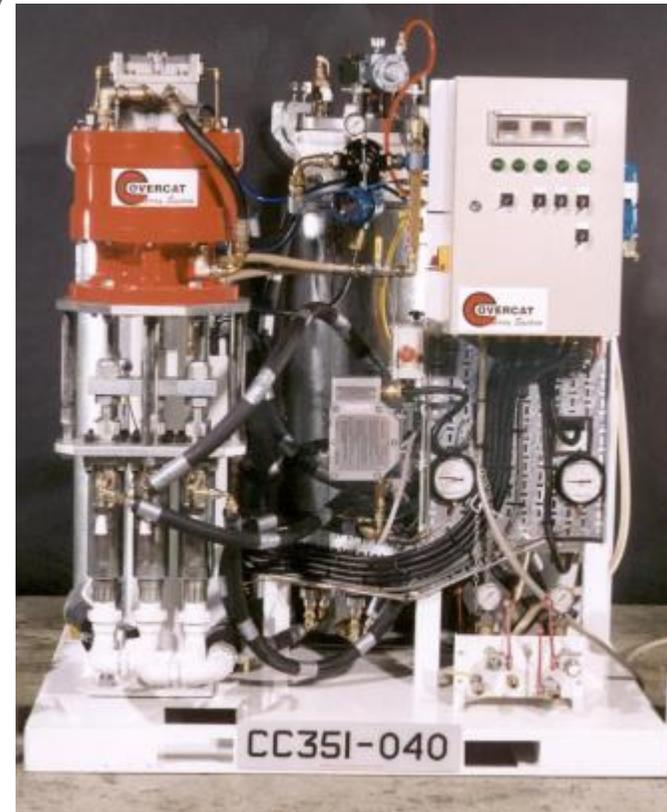
**Manually operated with  
Digital Temperature Control**

**Electronic Flow pressure control  
Industrial & ATEX Options**

**Over 50 Systems Sold to  
PFP Contractors Worldwide.**

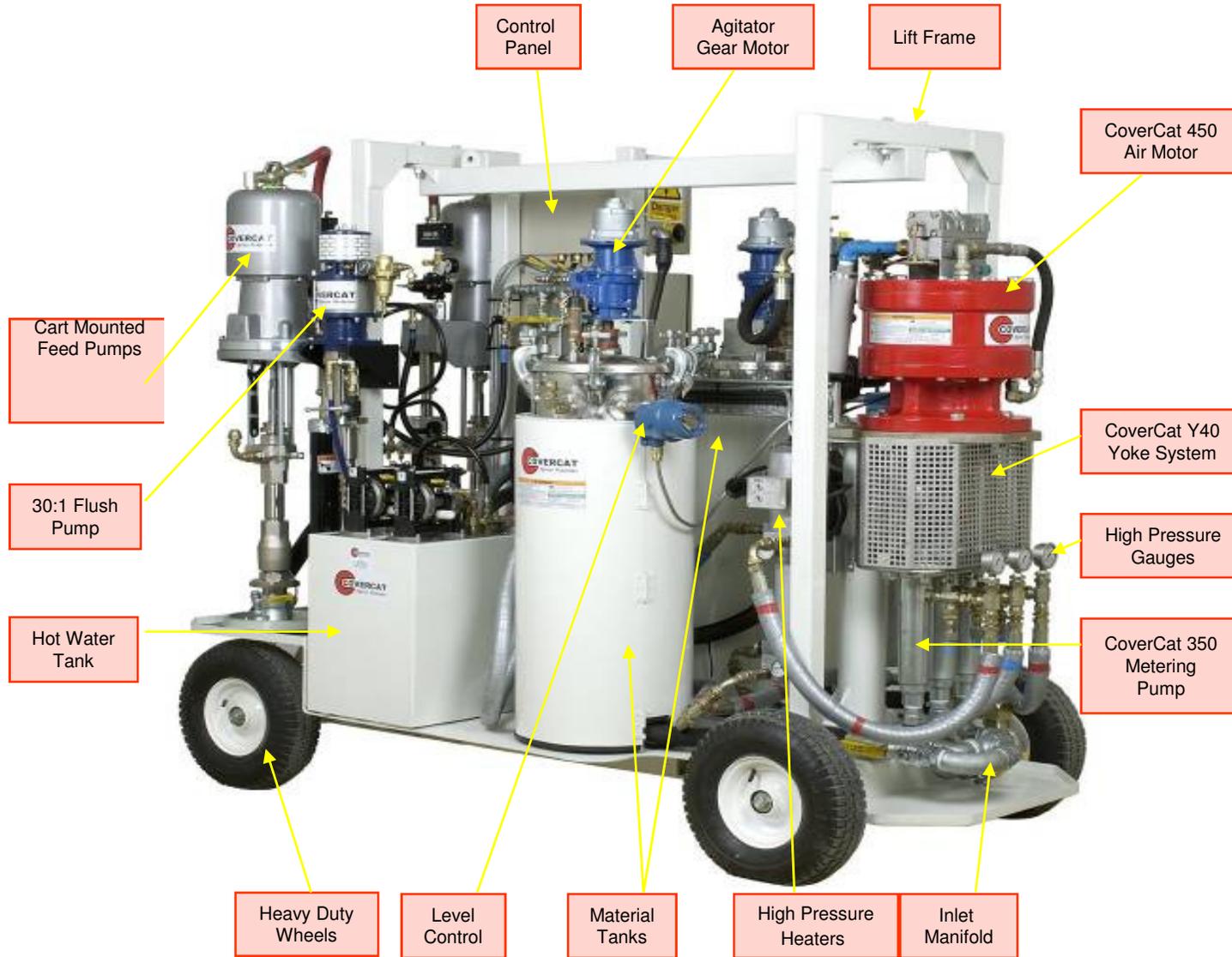
**The original compact PFP unit  
still in use for over 20years**

**e.g. Norway,  
NPCC, Prostar**



	452F	352FX	352F	302F
Metering Unit	450 (18")	350 (14")	350 (14")	300 (12")
A tank (SS)	132ltr (35usg)	65ltr (17usg)	65ltr (17usg)	65ltr (17usg)
B tank (SS)	65ltr (17usg)	65ltr (17usg)	65ltr (17usg)	65ltr (17usg)
Feed Pumps	2 x 200/50	2 x 200/50	Separate 2 x 150/40	1 x 150/40 1 x 150/20
Max Distance	60mtr	45mtr	45mtr	30mtr
Elevation	30mtr	20mtr	15mtr	10mtr
Air Supply	300cfm	250cfm	200cfm	150cfm
Power	380/440V, 3P+N+E 32A, 28kw	380/440V, 3P+N+E 32A, 26kw	5 x 230V 16A	380/440V, 3P+E 16A, 12kw

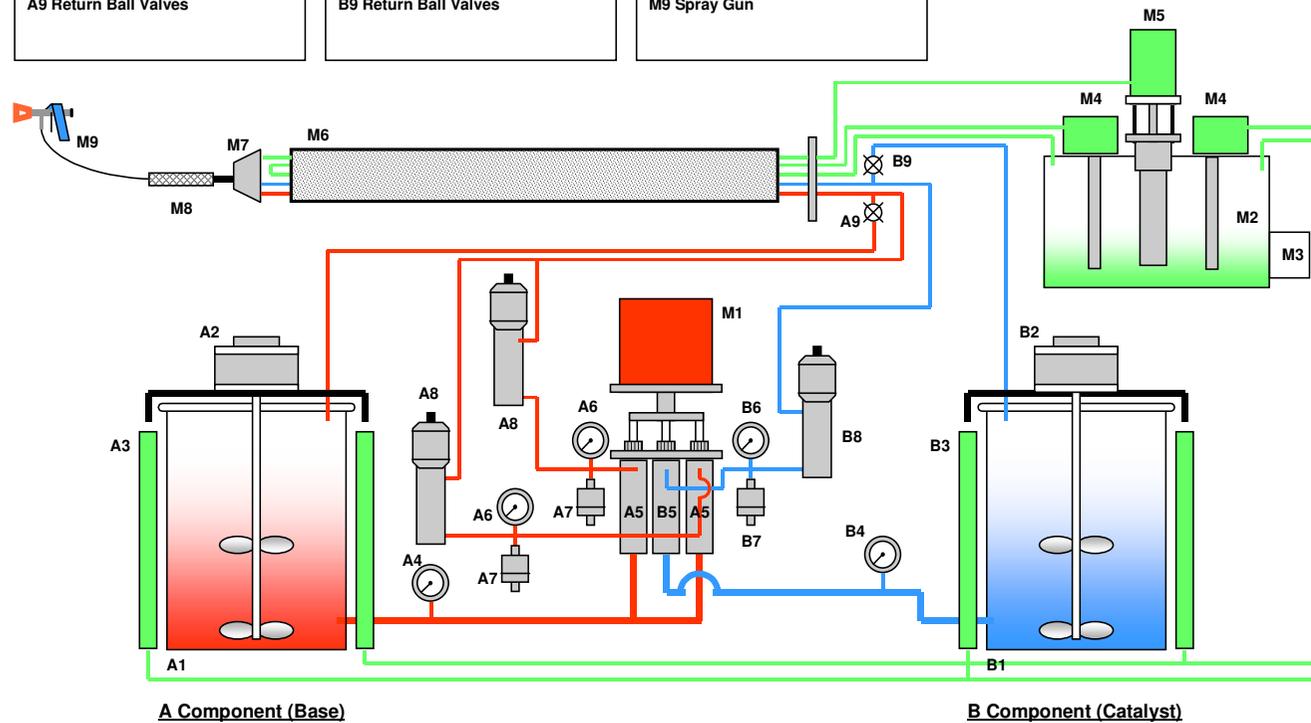




**Typical PFP Schematic**

A Component (Base)	B Component (Catalyst)	Metering System
A1 Pressure Tank 60L	B1 Pressure Tank 45L	M1 CoverCat Metering Pump
A2 Gear Motor, 2hp	B2 Gear Motor, 2hp	M2 Hot Water / Flush Tank
A3 Water Heating Jacket	B3 Water Heating Jacket	M3 Eex 3kW Immersion Heater
A4 Temperature Gauge	B4 Temperature Gauge	M4 Circulation Pump
A5 Component A Metering Pumps	B5 Component A Metering Pumps	M5 Flush Pump
A6 High Pressure Gauges	B6 High Pressure Gauges	M6 Hose Bundle
A7 Over Pressure Relief Valves	B7 Over Pressure Relief Valves	M7 Mix Block Head
A8 High Pressure 3.2kW Heaters	B8 High Pressure 3.2kW Heater	M8 Static Mixer Tube
A9 Return Ball Valves	B9 Return Ball Valves	M9 Spray Gun

**CoverCat 352F "Phoenix" System**



**CoverCat 452F Cart unit**

**Mobile, Cart Mounted Unit**  
**CoverCat 450 Metering Pump**  
**Large SS Material Tanks,**  
**A x 132ltr, B x 65ltr**  
**Powerful feed pumps**  
**(empty 1 x can in under 2mins)**  
**Forklift Slots and Lift Frame**  
**Water Heated Tanks & Hoses**  
**Simple to maintain**  
**The most popular machine supplied**



**and still the most powerful with large tanks**  
**Now with viewing window in the lid**

**300cfm at 100psi.**  
**380/440V power panel**



## ***Standard PFP Machines***

**CoverCat**

### **CoverCat 352FX Systems**

**Mobile, Cart Mounted Unit  
as for the 452F with Forklift Slots  
On Board feed pumps and control panel  
Lift Frame Optional  
2 x 65 litre (17gallon) SS tanks with water jacket  
Water heated hoses  
Simple to maintain  
The most popular machine supplied  
Compact and easy to use**



**250cfm at 100psi.  
380/440V power panel**

**www.covercat.com**

**Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines**



## **Standard PFP Machines**

**CoverCat**

### **CoverCat 352F Systems**

**Smaller Mobile, Cart Mounted**

**CoverCat 350 (14") Air Motor**

**Forklift Slots**

**Simplified Manual Operation**

**Separate Cart feed pumps**

**Water Heated Tanks & Hoses**

**2 x 65ltr tanks**

**Simple to maintain**

**Our most popular machine**

**Cost effective and easy maintenance**

**Upto 45mtr hoses at 15m elevation**

**200cfm at 100psi.**

**5 x 230V, 16Amp supplies or**

**380/440V power panel option**



**www.covercat.com**

**Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines**

**302F Unit for small area work**

**Mobile Cart Mounted Unit with Standard Forklift Slots  
Simplified Manual Operation, Water Heated Tanks &  
Hoses for use in smaller areas and general PFP  
maintenance.**

**Twin Water tanks,  
2 x 65litre material tanks  
300 Air Motor and  
1 x A Pump and 1 x B pump  
Power :110V , 230V  
or 380/440V110V**

**150cfm at 100psi  
ATEX Option**



CoverCat operator training schools are a very important part of PFP application. The school is carried out regularly and with each new machine supplied the client is provided with a 3 day comprehensive course including daily maintenance and safety checks, Ratio checks and general operation.

The work is done on site and is mostly a 'hands on' experience. Repetitive training to ensure that the students are competent in all aspects of operation at the end of the course.



Successful candidates are provided with a certificate which ensures the person is recognised and a trained operator.



## **Good Housekeeping**

- **Material Preparation**
- **Technical Data & Machine Spec.**
- **Clean Equipment**
- **Fault Inspection**
- **Filters & Mixers**
- **Communication**
- **Record Keeping**

## **Safety Considerations**

- **PPE**
- **Workplace Preparation**
- **Equipment Condition**
- **Waste Disposal**
- **Hoses a 4:1 Safety Factor**
- **Spray Guns & Tips safe**
- **Correct Pressure Ratings**

## **Daily Inspection**

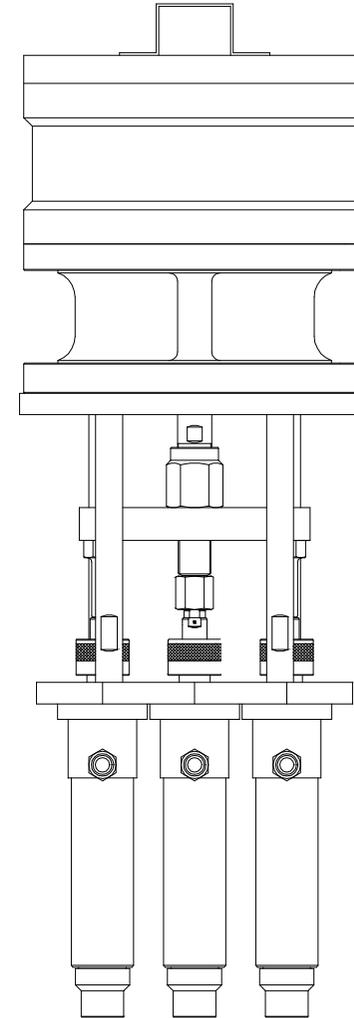
- **Pumps Seals, Gaskets and Packings**
- **Steady Warm up cycle**
- **Ratio Test**
- **Stall Test**
- **Filters & Lubricators**
- **Low Pressure Filters**
- **High Pressure Filters**
- **Packing Cups**
- **Hose Condition**
- **Mix Blades**
- **Spray Guns & Tips**

## **Startup Procedure**

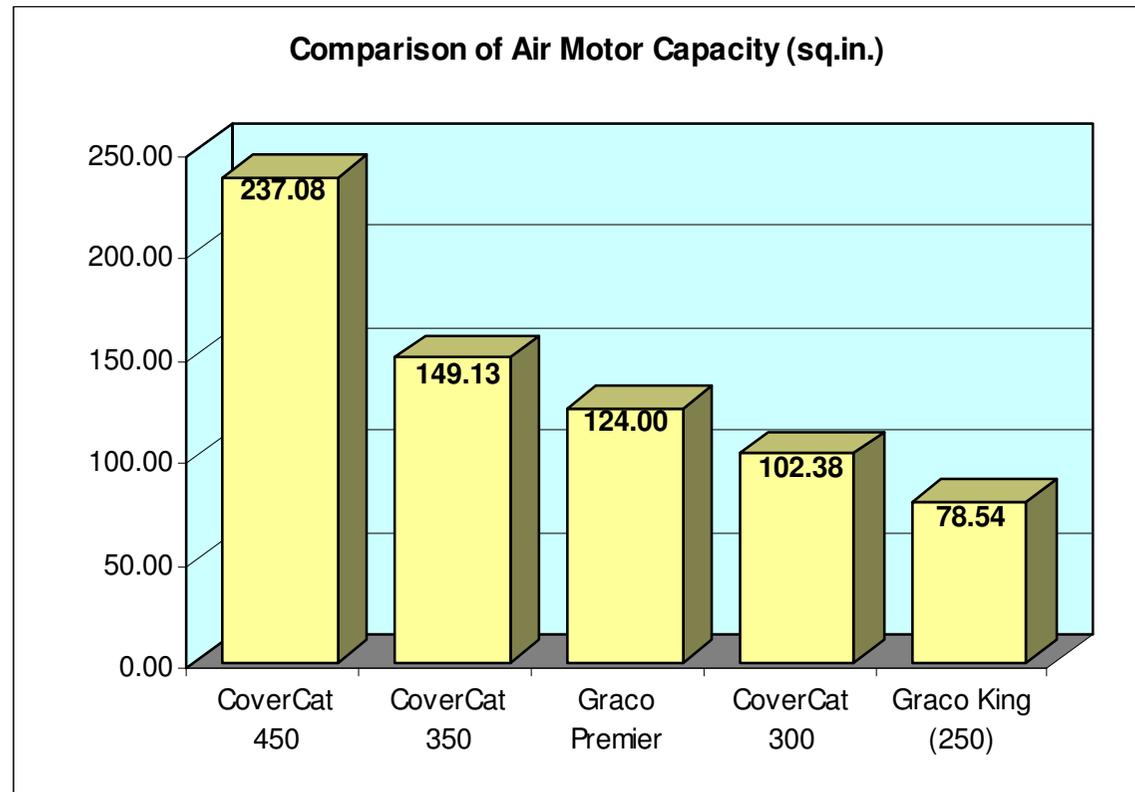
- **Adequate Material Supplies**
- **Circulation**
- **Heat Condition**
- **Priming**
- **Solvent**
- **Ratio Test**
- **Stall Test**

## **FIXED Ratio & Accuracy**

- **High Degree of Accuracy**
- **Low Wear Rates**
- **Technically Zero Error**
- **25 Years History**
- **Proven Reliability**
- **Slow cycle rate**
- **Big and powerful pumps**
- **Easy to maintain**



**CoverCat Air Motor Comparison Chart to show the most powerful Plural Component and PFP system Available with proven capability and a long track record**





## Displacement Pump range

covercat

### CoverCat Displacement Pumps

Type	Effective Area sq.in.	Piston Ball	Intake Ball	Rod Diameter mm	Sleeve Diameter mm	Delivery at 20 cyc/min litres/min	Delivery at 20 cyc/min US Gall/min
8	0.078	5mm	1/2"	8.00	11.31	0.24	0.06
GR9	0.277	5/16"	1/2"	15.06	21.30	0.86	0.23
GR7	0.369	5/16"	1/2"	17.65	24.64	1.14	0.30
88	0.382	1/2"	1"	17.91	25.04	1.18	0.31
89	0.400	1/2"	1"	18.13	25.64	1.24	0.33
GR5	0.441	5/16"	1/2"	19.18	26.92	1.37	0.36
90	0.500	1/2"	1"	20.26	28.66	1.55	0.41
GR2	0.553	5/16"	1/2"	21.46	30.15	1.71	0.45
75	0.606	1/2"	1"	22.31	31.55	1.88	0.50
91	0.667	1/2"	1"	23.41	33.10	2.07	0.55
GR1	0.740	1/2"	1/2"	24.65	34.86	2.29	0.61
92	0.750	1/2"	1"	24.82	35.10	2.32	0.61
93	0.800	1/2"	1"	25.64	36.25	2.48	0.65
41	0.870	5/8"	1"	26.72	37.80	2.69	0.71
GR0	0.887	5/8"	3/4"	26.99	38.17	2.75	0.73
42	0.956	5/8"	1"	28.01	39.63	2.96	0.78
94	1.000	3/4"	1"	28.66	40.52	3.09	0.82
66	1.072	3/4"	1 1/4"	29.68	41.96	3.32	0.88
43	1.160	3/4"	1 1/4"	30.86	43.66	3.59	0.95
95	1.200	3/4"	1 1/4"	31.40	44.40	3.72	0.98
96	1.250	3/4"	1 1/4"	32.04	45.32	3.87	1.02
61	1.250	7/8"	1 1/4"	32.05	45.32	3.87	1.02
50	1.388	7/8"	1 1/4"	33.73	47.75	4.30	1.14
6	1.481	7/8"		34.84	49.33	4.59	1.21
98	1.500	7/8"	1 1/4"	35.10	49.64	4.64	1.23
44	1.618	7/8"	1 1/4"	36.51	51.56	5.01	1.32
26	2.983	1 1/4"	2"	50.00	70.00	9.24	2.44
18	4.398	1 1/4"	2"	60.00	85.00	13.62	3.60

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**Typical Displacement Pump parts list**

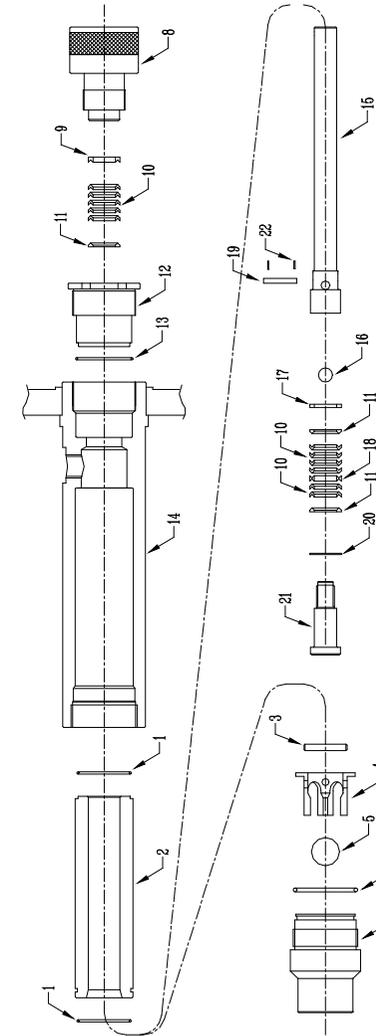
**Model 31 3054**

Type 94 Displacement Pump

Ref	Part No	Description	Qty
1 #*	39 3134	Teflon O-Ring	2
2	31 3122	Sleeve	1
3	31 3094	Ball Stop Pin	1
4	31 3092	Ball Guide	1
5 #	39 6232	ø1" Stainless Ball	1
6 #*	39 3136	Teflon O-Ring	1
7	31 3093	Housing	1
8	31 5269	Packing Cup Nut	1
9 #	31 3128	Female Gland	1
10 #*	31 3124	V-Teflons	11
11 #	31 3123	Male Gland	3
12	31 3127	Packing Holder	1
13 #*	39 3133	Teflon O-Ring	1
14	31 3095	Housing	1
15	31 3121	Displacement Rod	1
16 #	39 6224	ø3/4" Stainless Ball	1
17	31 3129	Piston Washer	1
18 #	31 3125	Centre Gland	1
19	31 3152	Piston Pin	1
20 #*	31 3126	Shims	1-3
21	31 3120	Piston	1
22 #	55 2417	Split Pin	2

# These parts are available in Service Kit 31 3076, which may be purchased separately

\* These parts are available in Seal Kit 31 3075, which may be purchased separately



**Small Batch Manufacture**

- CoverCat Air Motors**
- CoverCat Yoke Systems**
- Displacement Pumps**
- High Pressure Filters**
- Feed Pumps**
- Lift Rams**
- Mix Manifolds**
- Control Panels**
- Hose Assemblies**



- **Technical Support**

**Good Facilities**  
**Well Trained & Experienced Staff**  
**Fast Worldwide Response**  
**Specialist Advice**

- **Demonstration & Test Equipment**

**Range of Typical Systems Available**  
**Test and Training Facilities**

- **Hire & Rental Equipment (Europe)**

**Well Maintained Hire Fleet**  
**Operator Support Included**

## The machine that Started it all in 1989

**The original CoverCat 450**

**Large Skid 3m x 2 m**

**2500kgs**

**Eex rated for Scandinavia**

**9 similar systems in Norway still functional**

**Very big**

**Very powerful**

**Very heavy**



### **CoverCat PFP Reference List -**

**A sample of few names you may know from many clients**

#### **Europe**

**Aaronite, Barrier, Cape, DSL, E Blast, Kaefer, Lasarat, RGB, Rigblast, BIS Salamis, Palmers, Barrier, PFP Contracting, Prezioso, Kaefer Wanner,**

#### **Scandinavia**

**Norcoat, NSL, D F group, Kaefer, IKM, R&M,**

#### **Middle East – UAE, KSA and surrounding region**

**NPCC, Ineco, Oiltech, Kaefer KSA, Cape, Al Swiss**

#### **Far East - Asia - Pacific**

**Hyundai, DSME, Prostar, Thermal Limitec,**

**Best Technology, SR Engineering, Juranature, Sahid, Nichias, TCC, Pilbara Insulation, Meisei,**