

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.

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



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

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

www.covercat.com

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**

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



Bulk supply spraying



Trailer Mounted Pipelining rigs 2K Equipment



Pipe Snake

covercat

Passive Fire Protection



www.covercat.com

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



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.



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



Spray Application

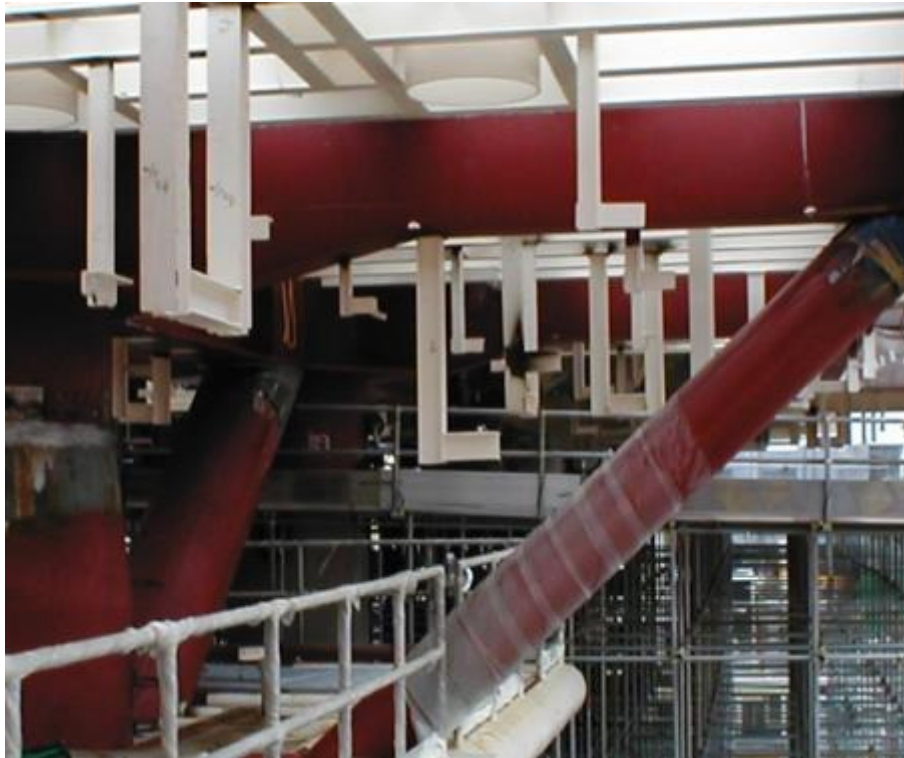


**Heated solvent
free spray
applications in
both open and
confined areas**

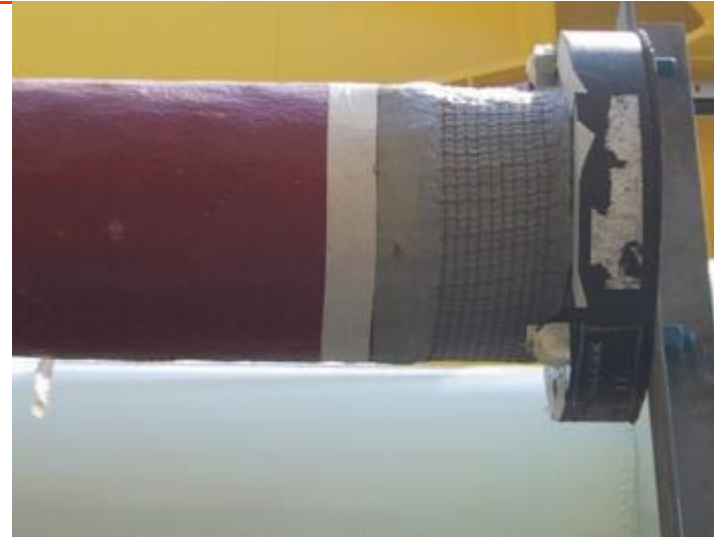


Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines

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



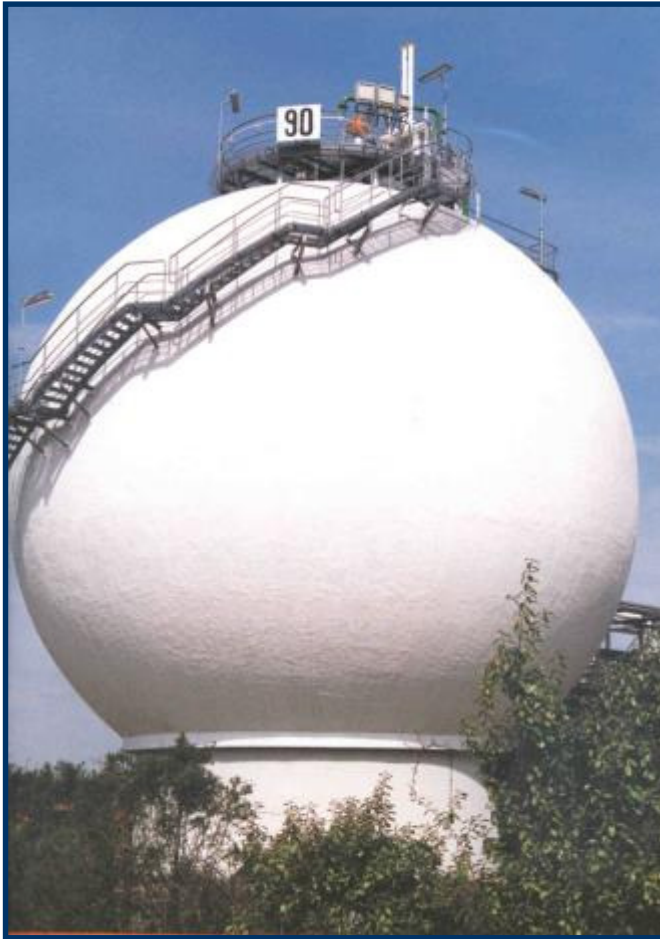
**Spraying the first coat
on a prepared area
with a suitable primer
and masking area of
adjacent structures**



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



Passive Fire Protection



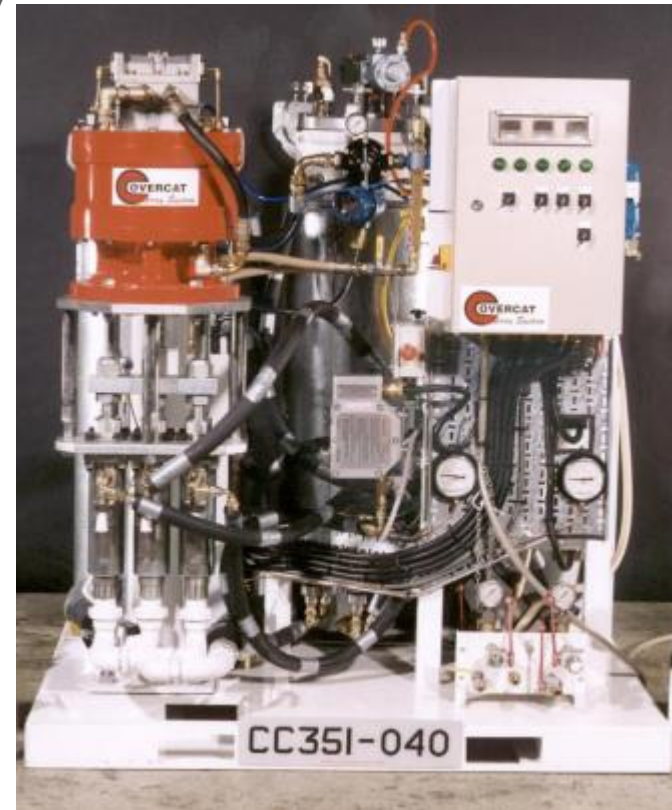
**Completed works from
onshore storage sphere
to offshore and pipe rack works**



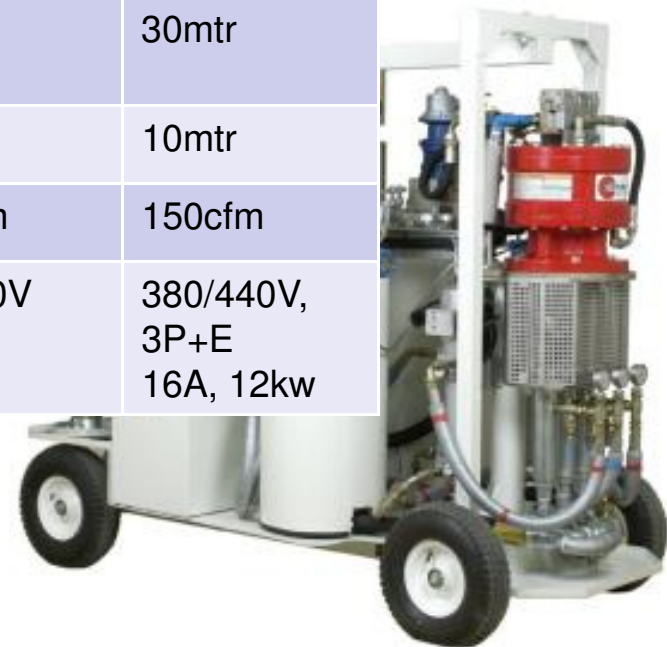
CoverCat 451 & 351 Systems introduced in 1994

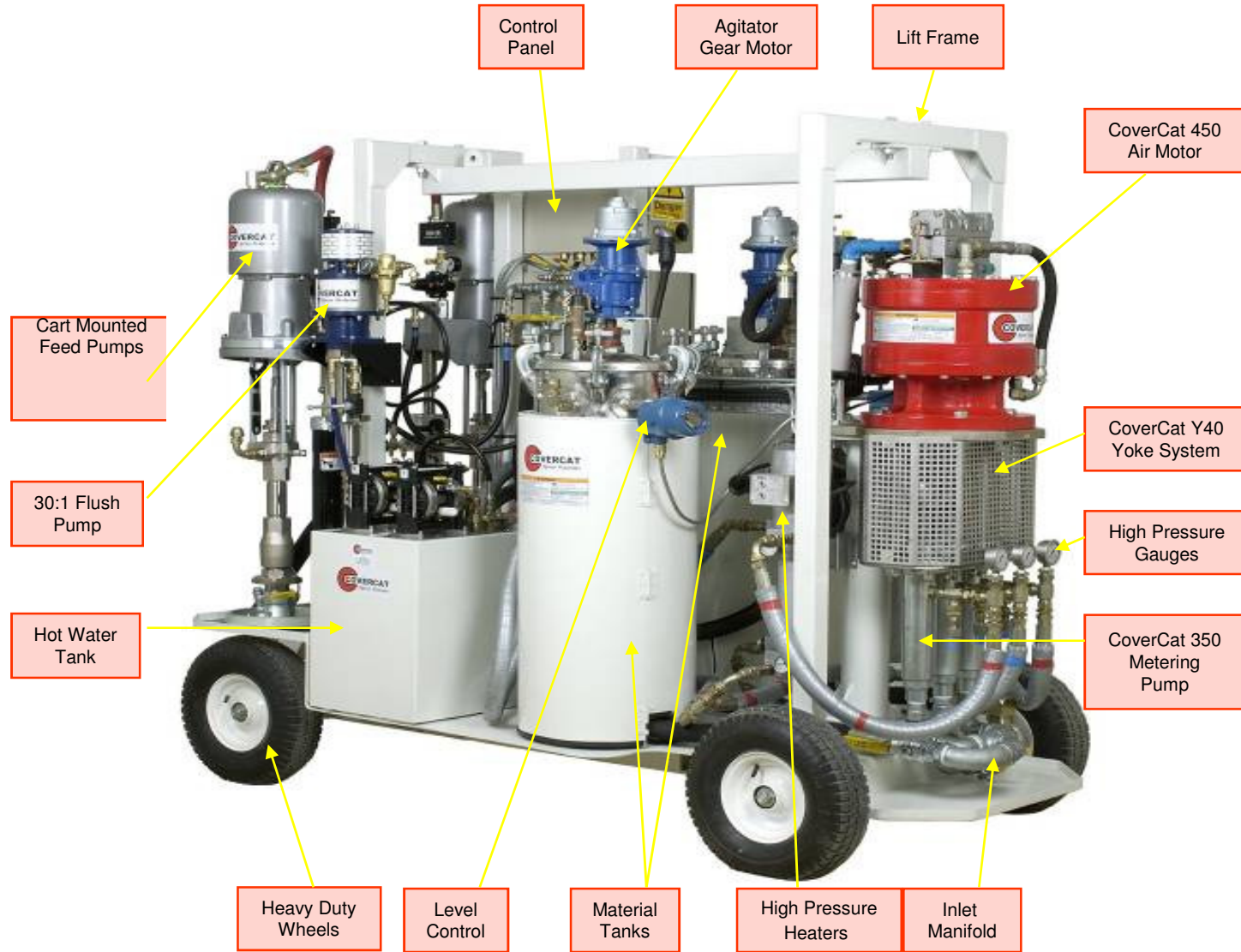
**Strong, Reliable and very popular
semi automated machines
Manually operated with
Digital Temperature Control
Electronic Flow pressure control
Industrial & ATEX Options
Over 50 Systems Sold to
PFP Contractors Worldwide.
The original compact PFP unit
still in use for over 20years**

**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)

A1 Pressure Tank 60L
A2 Gear Motor, 2hp
A3 Water Heating Jacket
A4 Temperature Gauge
A5 Component A Metering Pumps
A6 High Pressure Gauges
A7 Over Pressure Relief Valves
A8 High Pressure 3.2kW Heaters
A9 Return Ball Valves

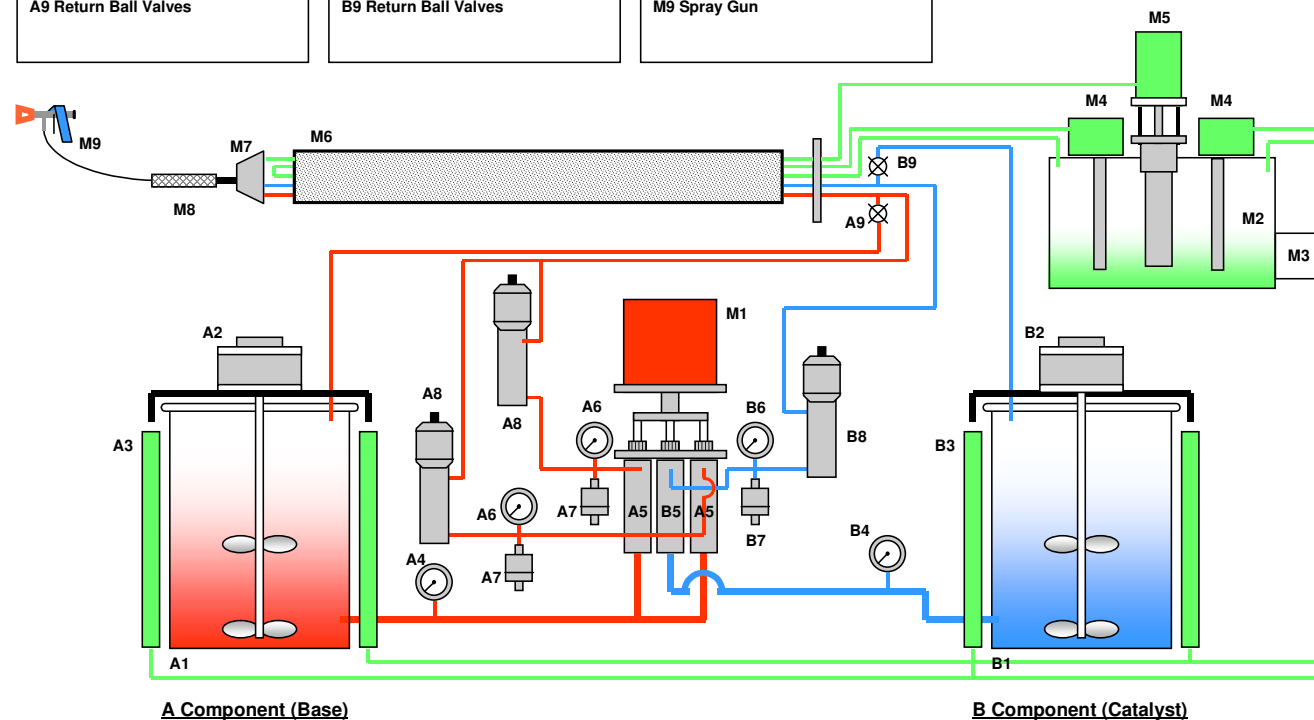
B Component (Catalyst)

B1 Pressure Tank 45L
B2 Gear Motor, 2hp
B3 Water Heating Jacket
B4 Temperature Gauge
B5 Component B Metering Pumps
B6 High Pressure Gauges
B7 Over Pressure Relief Valves
B8 High Pressure 3.2kW Heater
B9 Return Ball Valves

Metering System

M1 CoverCat Metering Pump
M2 Hot Water / Flush Tank
M3 Eex 3kW Immersion Heater
M4 Circulation Pump
M5 Flush Pump
M6 Hose Bundle
M7 Mix Block Head
M8 Static Mixer Tube
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

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**



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

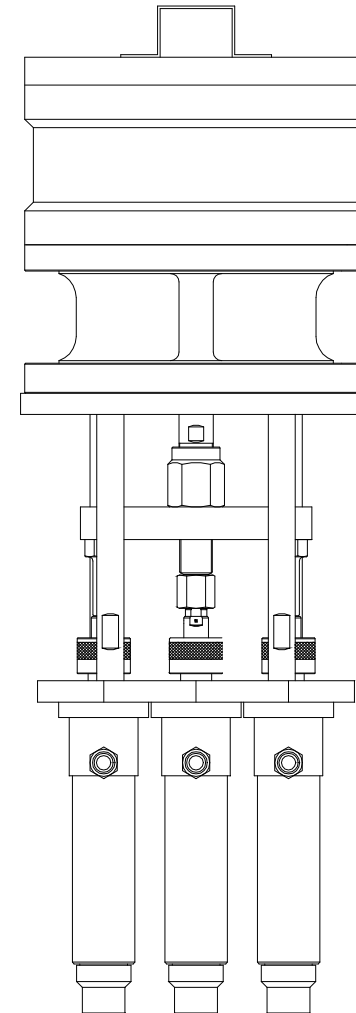
- **Pumps Seals, Gaskets and Packings**
- **Steady Warm up cycle**
- **Ratio Test**
- **Stall Test**
- **Filters & Lubricators**
- **Low Pressure Filters**
- **High Pressure Filters**
- **Packing Cups**
- **Hose Condition**
- **Mix Blades**
- **Spray Guns & Tips**

Startup Procedure

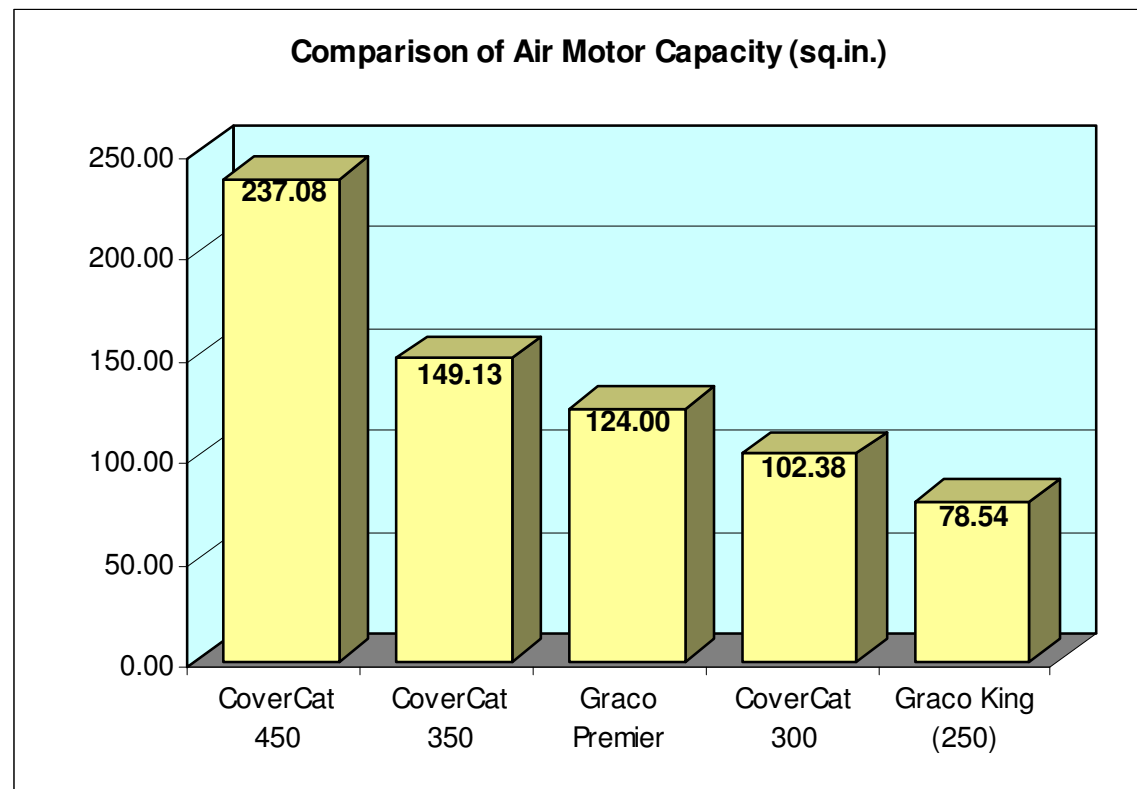
- **Adequate Material Supplies**
- **Circulation**
- **Heat Condition**
- **Priming**
- **Solvent**
- **Ratio Test**
- **Stall Test**

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**



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

Typical Displacement Pump parts list

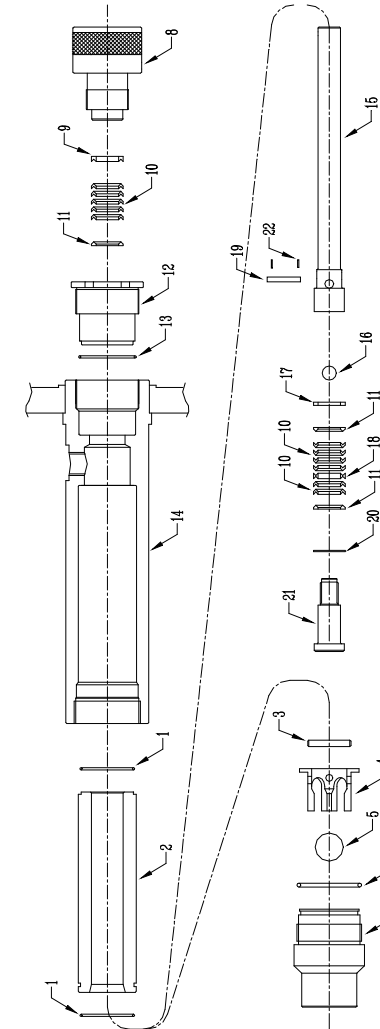
Model 31 3054

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,