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
• 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
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.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Original CoverCat Designs</strong></td>
<td><strong>Simplified Systems for Export Markets</strong></td>
<td><strong>Shipyard and Bulk supply systems</strong></td>
<td><strong>Internal Pipecoating Equipment</strong></td>
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<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
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<tr>
<td>2008 to 2010</td>
<td>2011 to 2012</td>
<td>2013</td>
<td>CoverCat</td>
</tr>
<tr>
<td><strong>Pipe Coating Plant developed</strong></td>
<td><strong>Hyperion Equipment takes over</strong></td>
<td><strong>CoverCat Thailand</strong></td>
<td><strong>30 Years of Engineering excellence</strong></td>
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<tr>
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<td><img src="image6.png" alt="Image" /></td>
<td><img src="image7.png" alt="Image" /></td>
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Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines
PFP
Passive Fire Protection is one of our core products.

- Trailer Mounted Pipelining rigs
- 2K Equipment
- Pipe Snake

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines
Passive Fire Protection

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.

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

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

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

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines.
Passive Fire Protection

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

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines
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 20 years
  e.g. Norway, NPCC, Prostar

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines
### Standard PFP Machines

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

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines
Standard PFP Machines

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

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

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

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
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.

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

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

Comparison of Air Motor Capacity (sq.in.)

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity (sq.in.)</th>
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<tbody>
<tr>
<td>CoverCat 450</td>
<td>237.08</td>
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<tr>
<td>CoverCat 350</td>
<td>149.13</td>
</tr>
<tr>
<td>Graco Premier</td>
<td>124.00</td>
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<tr>
<td>CoverCat 300</td>
<td>102.38</td>
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<tr>
<td>Graco King (250)</td>
<td>78.54</td>
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</table>

Design and Manufacture of Plural Component Spray Equipment and Pipe Coating machines
## CoverCat Displacement Pumps

<table>
<thead>
<tr>
<th>Type</th>
<th>Effective Area sq.in.</th>
<th>Piston Ball Diameter mm</th>
<th>Intake Ball mm</th>
<th>Rod Diameter mm</th>
<th>Sleeve Diameter mm</th>
<th>Delivery at 20 cyc/min litres/min</th>
<th>Delivery at 20 cyc/min US Gall/min</th>
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</thead>
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<tr>
<td>8</td>
<td>0.078</td>
<td>5mm</td>
<td>½&quot;</td>
<td>8.00</td>
<td>11.31</td>
<td>0.24</td>
<td>0.06</td>
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<td>GR9</td>
<td>0.277</td>
<td>5/16&quot;</td>
<td>⅝&quot;</td>
<td>15.06</td>
<td>21.30</td>
<td>0.86</td>
<td>0.23</td>
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<td>GR7</td>
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<td>⅝&quot;</td>
<td>17.65</td>
<td>24.64</td>
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<td>88</td>
<td>0.382</td>
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<td>25.04</td>
<td>1.18</td>
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<tr>
<td>89</td>
<td>0.400</td>
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<td>1&quot;</td>
<td>18.13</td>
<td>25.64</td>
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<td>0.33</td>
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<td>⅝&quot;</td>
<td>19.18</td>
<td>26.92</td>
<td>1.37</td>
<td>0.36</td>
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<tr>
<td>90</td>
<td>0.500</td>
<td>¾&quot;</td>
<td>1&quot;</td>
<td>20.26</td>
<td>28.66</td>
<td>1.55</td>
<td>0.41</td>
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<td>GR2</td>
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<td>75</td>
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<td>1&quot;</td>
<td>22.31</td>
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<td>91</td>
<td>0.667</td>
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<td>23.41</td>
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<tr>
<td>GR1</td>
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<td>24.65</td>
<td>34.86</td>
<td>2.29</td>
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<tr>
<td>92</td>
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<td>1&quot;</td>
<td>24.82</td>
<td>35.10</td>
<td>2.32</td>
<td>0.61</td>
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<tr>
<td>93</td>
<td>0.800</td>
<td>¾&quot;</td>
<td>1&quot;</td>
<td>25.64</td>
<td>36.25</td>
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<tr>
<td>41</td>
<td>0.870</td>
<td>5/8&quot;</td>
<td>1&quot;</td>
<td>26.72</td>
<td>37.80</td>
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<td>GR0</td>
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<td>42</td>
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<td>5/8&quot;</td>
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<td>28.01</td>
<td>39.63</td>
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<tr>
<td>94</td>
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<td>28.66</td>
<td>40.52</td>
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<tr>
<td>66</td>
<td>1.072</td>
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<td>⅛&quot;</td>
<td>29.68</td>
<td>41.96</td>
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<td>43</td>
<td>1.160</td>
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<td>⅛&quot;</td>
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<td>96</td>
<td>1.250</td>
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<td>½&quot;</td>
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<td>61</td>
<td>1.250</td>
<td>7/8&quot;</td>
<td>½&quot;</td>
<td>32.05</td>
<td>45.32</td>
<td>3.87</td>
<td>1.02</td>
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<td>50</td>
<td>1.388</td>
<td>7/8&quot;</td>
<td>⅛&quot;</td>
<td>33.73</td>
<td>47.75</td>
<td>4.30</td>
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<td>6</td>
<td>1.481</td>
<td>7/8&quot;</td>
<td>⅛&quot;</td>
<td>34.84</td>
<td>49.33</td>
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<td>98</td>
<td>1.500</td>
<td>7/8&quot;</td>
<td>½&quot;</td>
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<td>49.64</td>
<td>4.64</td>
<td>1.23</td>
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<td>1.618</td>
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<td>26</td>
<td>2.983</td>
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<td>2&quot;</td>
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<td>70.00</td>
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**Typical Displacement Pump parts list**

**Model 31 3054**  
Type 94 Displacement Pump

<table>
<thead>
<tr>
<th>Ref</th>
<th>Part No</th>
<th>Description</th>
<th>Qty</th>
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<tr>
<td>1 #</td>
<td>39 3134</td>
<td>Teflon O-Ring</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>31 3122</td>
<td>Sleeve</td>
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<tr>
<td>3</td>
<td>31 3094</td>
<td>Ball Stop Pin</td>
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</tr>
<tr>
<td>4</td>
<td>31 3092</td>
<td>Ball Guide</td>
<td>1</td>
</tr>
<tr>
<td>5 #</td>
<td>39 6232</td>
<td>ø1” Stainless Ball</td>
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<tr>
<td>6 #</td>
<td>39 3136</td>
<td>Teflon O-Ring</td>
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<tr>
<td>7</td>
<td>31 3093</td>
<td>Housing</td>
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<tr>
<td>8</td>
<td>31 5269</td>
<td>Packing Cup Nut</td>
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</tr>
<tr>
<td>9 #</td>
<td>31 3128</td>
<td>Female Gland</td>
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<tr>
<td>10 #</td>
<td>31 3124</td>
<td>V-Teflons</td>
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<td>11</td>
<td>31 3123</td>
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<td>Shims</td>
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<tr>
<td>22</td>
<td>55 2417</td>
<td>Split Pin</td>
<td>2</td>
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</table>

# 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

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

Small Batch Manufacture

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

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

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