FOAM PUMPS FOR FIRE FIGHTING VEHICLES

‘Where reliability is crucial’

www.albany-pumps.co.uk
FOAM PUMPS FOR FIRE FIGHTING VEHICLES

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Other curves and drawings (including pumps without in-built relief valves) available on request.
Albany Pumps

Foam Pumps for the Fire Industry

- Foam concentrate injection pumps
- Foam transfer pumps
- VdS approved models

Albany specialises in manufacturing foam concentrate pumps for the Fire industry. A wide range of models of gear pumps are available, with many drive and mounting options. Albany’s engineering expertise includes a high level of customisation, ensuring that pumps can be supplied to meet the exacting needs of the fire fighting market.

FOAM PUMPS FOR FIRE TRUCKS & FIXED INSTALLATIONS FOR PRESSURES UP TO 20 BARS

CONSTRUCTION:

PUMP CASING: Gunmetal, cast iron and stainless steel 316 option. Flanges to ASA or DIN standards, Screwed BSP (Female) branches: NPT available to choice.

ROTORS: Phosphor bronze or stainless steel.

SHAFTS: Stainless steel 316 with hard coatings.

BEARINGS: Product lubricated bush bearings.

RELIEF VALVE: If required mounted in the pump body for internal circulation.

SHAFT SEALING: Lip seals, mechanical seals and Packed glands available.

An internal pressure relief system reduces pressure in the seal area.

REVERSIBLE: Flow can be reversed.

- NFPA 20: Albany pumps can be supplied to comply with the latest edition (2013)
- Pumps can run dry for 10 minutes

where reliability is crucial

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Tel: +44 (0) 1594 842275 Fax: +44 (0) 1594 842574 e-mail: sales@albany-pumps.co.uk www.albany-pumps.co.uk

Certificate No. FM 20886
<table>
<thead>
<tr>
<th>PUMP SIZE</th>
<th>STANDARD BRANCH SIZE &amp; TYPE</th>
<th>RPM</th>
<th>Example at 16 bar</th>
<th>Example at 20 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lit/M</td>
<td>kW</td>
</tr>
<tr>
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<td></td>
<td>USGPM</td>
<td>HP</td>
</tr>
<tr>
<td>APSN2</td>
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<td>1420</td>
<td>24</td>
<td>6.4</td>
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<td>36</td>
<td>9.5</td>
</tr>
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<td>1420</td>
<td>52</td>
<td>13.7</td>
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<tr>
<td>AP7 *</td>
<td>1&quot; BSP F</td>
<td>1420</td>
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<td>23</td>
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<td>41</td>
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<tr>
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<tr>
<td>AP11</td>
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<td>1420</td>
<td>315</td>
<td>83</td>
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<tr>
<td>HD3</td>
<td>1 1/2&quot; Flanged</td>
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<td>350</td>
<td>93</td>
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<tr>
<td>HD11.5</td>
<td>2 1/2&quot; Flanged</td>
<td>1420</td>
<td>380</td>
<td>100</td>
</tr>
<tr>
<td>HD4</td>
<td>2&quot; Flanged</td>
<td>1420</td>
<td>460</td>
<td>122</td>
</tr>
<tr>
<td>HD5 *</td>
<td>2 1/2&quot; Flanged</td>
<td>1420</td>
<td>510</td>
<td>134</td>
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<tr>
<td>AP12</td>
<td>3&quot; Flanged</td>
<td>1420</td>
<td>560</td>
<td>148</td>
</tr>
<tr>
<td>AP13</td>
<td>3&quot; Flanged</td>
<td>1420</td>
<td>870</td>
<td>228</td>
</tr>
<tr>
<td>HD7</td>
<td>3&quot; Flanged</td>
<td>1420</td>
<td>1070</td>
<td>282</td>
</tr>
<tr>
<td>HD8</td>
<td>4&quot; Flanged</td>
<td>1420</td>
<td>1340</td>
<td>350</td>
</tr>
<tr>
<td>HD10</td>
<td>4&quot; Flanged</td>
<td>1420</td>
<td>1580</td>
<td>417</td>
</tr>
<tr>
<td>SH170</td>
<td>8&quot; Flanged</td>
<td>1450</td>
<td>2000</td>
<td>529</td>
</tr>
<tr>
<td>SH2196</td>
<td>8&quot; Flanged</td>
<td>1450</td>
<td>3000</td>
<td>790</td>
</tr>
</tbody>
</table>

* AP7, AP9 & HD5 models that are approved by VdS can be supplied for use in stationary water extinguishing systems.

Above flows based on foams of 12-14 cst & S.G: 1.2. Viscosity range 3 cps to 2000 cps can be accommodated, please supply details of foam and viscosity with enquiry.

- **DRIVES**

When pumps are fitted to fire tender vehicles, drive is normally from PTO but may be via hydraulic motor or a separate engine. Fixed installations normally employ electric motors or diesel engine drives. However, there is an increasing preference for water turbine drives for foam concentrate pumps, which Albany cover with their Pelton units.

- **APPROVALS – QA**

Albany holds BS EN ISO 9001:2008 approval. World-wide, many installations of its pumps fulfil rigorous test and service conditions. We meet the QA and documentation requirements of the oil and gas industry.

VdS approval is held for the AP7, AP9 & HD5 families of pumps used on fixed installations.

- **TESTING**

All Albany pumps are performance tested to ensure they meet the specification.

- **THIXOTROPIC FOAM CONCENTRATES**

Albany pumps will handle thixotropic foam liquids. Pumps may be run at normal speeds, as the shear rate within the inlet pipe and pump is sufficient to reduce viscosities. Suction lines should be as short as possible and of generous diameter since some of these liquids have a high resistance to flow.

- **DOCUMENTATION**

Customised documentation can be provided for customers when required.

- **SPARES**

Spares are held for all standard pumps. Please contact for details and prices, quoting the serial number stamped on the pump body.
Foam Concentrate Pump photographs

Dow fire truck fitted with Albany AP12 pump

BP fire truck fitted with Albany AP11.5 pump
Water powered pump in action

3” vehicle mounted foam pump for 18 bars pressure. Used on airport crash tenders.

1” foam pump installed in a fire engine locker.

Petrol engine driven lightweight foam transfer pump for 64 l/m.
WATER POWERED FOAM PUMP RANGE GROWS

Used offshore and on big storage and loading areas in the oil & gas industry Albany’s newly developed 3” foam concentrate pump is a real winner.

The water powered pump offers economy and greatly reduced space requirements. This is critical for offshore fire protection.

The unit supplies 600 l/m at up to 18 bars pressure with complete spark-proof safety.

The smallest water powered pumps are portable and used offshore. Medium sized units of 100 - 200 l/m protect helidecks on platforms and ships and Naval vessels.

Albany’s foam pump range extends to 1400 l/m with our gear pumps and above 3000 l/m with our ranges of twin screw pumps.

ALBANY “FIGHT” TO SECURE ORDER FOR SINGAPORE CIVIL DEFENCE

After fierce competition Albany secured an order from a major Singapore fire fighting & protection equipment specialist. The requirement was for pumps to handle 1400 litres/minute of fire fighting foam concentrate.

Eight model HD8 relief valve extended bearing pattern Albany pumps with 4-inch flanged connections and bare drive shafts were supplied for building into skids out in Singapore, (photographs show the units under construction).

The roll-on/roll-off skids incorporated the Albany pump coupled to a diesel engine, foam tank, pipe work and control gear. This enables the Singapore Civil Defence to place the unit at any strategic point to facilitate the fighting of fires.
VEHICLE FOAM LOADING AND TRANSFER PUMPS

Right: the Unipower Rapid Intervention Vehicle (RIV) is a first response airfield crash, fire and rescue vehicle. It has exceptional performance and can operate in extremes of climate. Unipower of Coventry (formerly Alvis Motors) chose a DC motor-driven Albany FL5 to pump foam concentrate into the water stream. Albany make a range of DC or AC driven and air or hydraulic powered foam transfer pumps for use on all types of fire vehicles.

ALBANY THINK – ‘FIRE PROTECTION’

This close up picture shows the Albany foam pump in action. Please note the water falling from the Pelton Wheel.

The Angus Fire skid sits on a concrete foundation with a tundish moulded into concrete to ferry the water away to a drain point.

In many applications the water is piped back to the main water pump suction or to the water storage tank.

Millions of people pass through airports and never give a thought to the fire fighting equipment. The good news is that Albany have given a lot of thought to the design, manufacture and performance of their pumps used on foam concentrate used in fighting aviation fuel fires.

When the fuel storage facilities at a major European airport needed extending Angus Fire were contacted to supply the foam unit skid. This unit was designed to cover the requisite demand of foam for the base injection system on the new storage tanks. An integral and vital part of the unit was a water powered foam pump. Angus, working closely with Albany at the calculation and design stage, incorporated one of Albany’s pump units knowing that it would meet the performance requirements specified.

Every foam pump Albany manufacture and supply is thoroughly tested. The water turbine units are fine tuned at the test stage to ensure the foam flow rate at the required discharge pressure is achieved at the stated water pressure. So everyone can rest assured that an Albany pump will perform if and when called upon.
## TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS
### FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

<table>
<thead>
<tr>
<th>PUMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model: AP10 with bare shaft drive</td>
</tr>
<tr>
<td>Rotor Type: Double Helical</td>
</tr>
<tr>
<td>Mounting: Foot</td>
</tr>
<tr>
<td>Branches: Flanged 1 1/2&quot; ASA 150 lb FF</td>
</tr>
<tr>
<td>Integral RV: Yes</td>
</tr>
<tr>
<td>Bearings: Extended DU</td>
</tr>
<tr>
<td>Shaft Sealing: Packed Gland pressure relieved</td>
</tr>
<tr>
<td>Option: Flange (see notes below)</td>
</tr>
<tr>
<td>Option: DIN</td>
</tr>
<tr>
<td>Option: Non RV version</td>
</tr>
<tr>
<td>Option: Double Lip Seal, grease lubricated and pressure relieved</td>
</tr>
</tbody>
</table>

### Materials of Construction

- Body: Gunmetal
- Front Cover: Gunmetal
- Back Cover: Gunmetal
- Rotors: Phosphor Bronze
- Shafts: 316 Stainless Steel hard chrome plated in bearing and seal areas
- Bearings: DU type, PTFE coated on sintered backing

### Performance Details

- Speed range: 1000 to 2200 rev/min
- Output range: approx. 150 to 400 l/m
- Discharge pressure range: 0 to 20 bar g

Foam Viscosity range: This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 7 cst and at 1800 rev/min is 5 cst.

For foams with viscosities below these figures please contact Albany Sales Office.

### Notes! Pumps for Fire Fighting Vehicles

- Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.
- If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.
- Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.
- Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany's recommended limits as running on water and low viscosity foams will reduce the life of the pump.
<table>
<thead>
<tr>
<th>Pump Type</th>
<th>AP10 DH</th>
<th>Viscosity</th>
<th>15 centistokes</th>
<th>Temperature</th>
<th>20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Graph No.: AP10-RV-DH-1800-15CST-1*
## TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS
### FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

### PUMP

- **Model:** AP11 with bare shaft drive
- **Rotor Type:** Double Helical
- **Mounting:** Foot
- **Branches:** Flanged 2" ASA 150 lb FF
- **Integral RV:** Yes
- **Bearings:** Extended DU
- **Shaft Sealing:** Packed Gland pressure relieved

**Option:**
- Flange (see notes below)
- DIN
- Non RV version
- Double Lip Seal, grease lubricated and pressure relieved

### Materials of Construction

- **Body:** Gunmetal
- **Front Cover:** Gunmetal
- **Back Cover:** Gunmetal
- **Rotors:** Phosphor Bronze
- **Shafts:** 316 Stainless Steel hard chrome plated in bearing and seal areas
- **Bearings:** DU type, PTFE coated on sintered backing

### Performance Details

- **Speed range:** 1000 to 2200 rev/min
- **Output range:** approx. 175 to 540 l/m
- **Discharge pressure range:** 0 to 20 bar g
- **Foam Viscosity range:** This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 9 cst and at 1800 rev/min is 6 cst.

For foams with viscosities below these figures please contact Albany Sales Office.

### Notes! Pumps for Fire Fighting Vehicles

Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.

If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.

Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.

Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany's recommended limits as running on water and low viscosity foams will reduce the life of the pump.
Pump Performance Graph

<table>
<thead>
<tr>
<th>Pump Type</th>
<th>AP11 DH</th>
<th>Viscosity</th>
<th>15 centistokes</th>
<th>Temperature 20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>----------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model:</td>
<td>AP11.5 with bare shaft drive</td>
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<td>Rotor Type:</td>
<td>Double Helical</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mounting:</td>
<td>Foot</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Branches:</td>
<td>Flanged 2 1/2&quot; ASA 150 lb FF</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Integral RV:</td>
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<td></td>
</tr>
<tr>
<td>Bearings:</td>
<td>Extended DU</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Shaft Sealing:</td>
<td>Packed Gland pressure relieved</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option:</td>
<td>Flange (see notes below)</td>
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<tr>
<td>Option:</td>
<td>DIN</td>
<td></td>
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</tr>
<tr>
<td>Option:</td>
<td>Non RV version</td>
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<td></td>
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<tr>
<td>Option:</td>
<td>Double Lip Seal, grease lubricated and pressure relieved</td>
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<table>
<thead>
<tr>
<th>Materials of Construction</th>
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<tbody>
<tr>
<td>Body: Gunmetal</td>
</tr>
<tr>
<td>Front Cover: Gunmetal</td>
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<tr>
<td>Back Cover: Gunmetal</td>
</tr>
<tr>
<td>Rotors: Phosphor Bronze</td>
</tr>
<tr>
<td>Shafts: 316 Stainless Steel hard chrome plated in bearing and seal areas</td>
</tr>
<tr>
<td>Bearings: DU type, PTFE coated on sintered backing</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Performance Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed range: 1000 to 2200 rev/min</td>
</tr>
<tr>
<td>Output range: approx. 250 to 680 l/m</td>
</tr>
<tr>
<td>Discharge pressure range: 0 to 20 bar g</td>
</tr>
<tr>
<td>Foam Viscosity range: This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 12 cst and at 1800 rev/min is 8 cst.</td>
</tr>
</tbody>
</table>

For foams with viscosities below these figures please contact Albany Sales Office.

<table>
<thead>
<tr>
<th>Notes! Pumps for Fire Fighting Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.</td>
</tr>
<tr>
<td>If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.</td>
</tr>
<tr>
<td>Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.</td>
</tr>
<tr>
<td>Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany's recommended limits as running on water and low viscosity foams will reduce the life of the pump.</td>
</tr>
</tbody>
</table>
Pump Performance Graph

<table>
<thead>
<tr>
<th>Pump Type</th>
<th>Fluid</th>
<th>Viscosity</th>
<th>15 centistokes</th>
<th>Temperature 20°C</th>
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</thead>
<tbody>
<tr>
<td>AP11.5 DH</td>
<td>Oil</td>
<td>15 CST</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 Bar</td>
<td>1800</td>
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<td></td>
<td></td>
<td></td>
<td>15 Bar</td>
<td>15°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20 Bar</td>
<td></td>
</tr>
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</table>
### Flanges

<table>
<thead>
<tr>
<th>Flange Type</th>
<th>O.D.</th>
<th>No. of Holes</th>
<th>Hole O.D.</th>
<th>P.D.O.</th>
<th>X</th>
<th>Y</th>
<th>Raised Face</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 1/2&quot; ANSI 150# FF or RF</td>
<td>7 1/2&quot;</td>
<td>4</td>
<td>2 1/2&quot;</td>
<td>1 1/2&quot;</td>
<td>0.3&quot;</td>
<td>4 1/2&quot;</td>
<td>1 1/8&quot;</td>
</tr>
<tr>
<td>2 1/2&quot; ANSI 150# FF or RF</td>
<td>7 1/2&quot;</td>
<td>4</td>
<td>2 1/2&quot;</td>
<td>1 1/2&quot;</td>
<td>0.3&quot;</td>
<td>4 1/2&quot;</td>
<td>1 1/8&quot;</td>
</tr>
<tr>
<td>2 1/2&quot; ANSI 150# FF or RF</td>
<td>7 1/2&quot;</td>
<td>4</td>
<td>2 1/2&quot;</td>
<td>1 1/2&quot;</td>
<td>0.3&quot;</td>
<td>4 1/2&quot;</td>
<td>1 1/8&quot;</td>
</tr>
<tr>
<td>2 1/2&quot; S16</td>
<td>8 1/2&quot;</td>
<td>4</td>
<td>2 1/2&quot;</td>
<td>1 1/2&quot;</td>
<td>0.3&quot;</td>
<td>4 1/2&quot;</td>
<td>1 1/8&quot;</td>
</tr>
</tbody>
</table>

### Remarks:
- **PUMP DRAWN**: TOP DRIVE / CLOCKWISE ROTATION
- **ANTICLOCKWISE ROTATION**
- **SANDBLASTING**
- **DEBRIS BRANCHES**
- **ROTATION REVISED**

---

**Albany Pumps**

**LIETHY, BRIDGEND, WALES**

**www.albany-pumps.co.uk**

**Description**

**SECTIONAL ARRANGEMENT API 6A RELIEF VALVE EXTENDED BEARING PUMP**

---

**Drawing No.**: 24523

**In** No.**: 3
TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS
FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

PUMP
Model: AP12 with bare shaft drive
Rotor Type: Double Helical
Mounting: Foot
Option: Flange (see notes below)
Branches: Flanged 3” ASA 150 lb FF
Option: DIN
Integral RV: Yes
Option: Non RV version
Bearings: Extended DU
Option: Double Lip Seal, grease lubricated and pressure relieved
Shaft Sealing: Packed Gland pressure relieved

Materials of Construction
Body: Gunmetal
Front Cover: Gunmetal
Back Cover: Gunmetal
Rotors: Phosphor Bronze
Shafts: 316 Stainless Steel hard chrome plated in bearing and seal areas
Bearings: DU type, PTFE coated on sintered backing

Performance Details
Speed range: 1000 to 1800 rev/min
Output range: approx. 320 to 720 l/m Note! See curve: AP12-RV-DH-1800-15CST-1
Discharge pressure range: 0 to 20 bar g
Foam Viscosity range: This is the viscosity of the foam when entering the pump and the range is
dependant on speed and pressure, with a discharge pressure of 16 bar g the
minimum viscosity at 1200 rev/min is 6 cst and at 1800 rev/min is 4 cst.
For foams with viscosities below these figures please contact Albany Sales Office.

Notes! Pumps for Fire Fighting Vehicles
Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the
horizontal with the foot in the 6, 9, 12 or 3 o'clock position.
If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please
contact the Albany Sales Office as this may necessitate a thrust bearing.
Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side
loads the pump can be fitted with an outrigger bearing.
Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it
must be within Albany's recommended limits as running on water and low viscosity foams will
reduce the life of the pump.
Albany Pumps

Pump Performance Graph

Graph No. AP12-RV-DH-1800-15CST-1

Pump Type: AP12 DH
Viscosity: 15 centistokes
Temperature: 20°C
Fluid: Oil

Litres per minute vs RPM

KW vs RPM

Graphs show the performance of the pump under different pressures (0 Bar, 5 Bar, 10 Bar, 15 Bar, 20 Bar) at various RPMs and flow rates.
# TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS
## FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

### PUMP

<table>
<thead>
<tr>
<th>Model: AP13 with bare shaft drive</th>
<th>Mounting: Foot Option: Flange (see notes below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotor Type: Double Helical</td>
<td>Branches: Flanged 3” ASA 150 lb FF Option: DIN</td>
</tr>
<tr>
<td>Integral RV: Yes Option: Non RV version</td>
<td>Bearings: Extended DU</td>
</tr>
<tr>
<td>Mounting: Foot</td>
<td>Shaft Sealing: Packed Gland pressure relieved Option: Double Lip Seal, grease lubricated and pressure relieved</td>
</tr>
<tr>
<td>Branches: Flanged 3” ASA 150 lb FF</td>
<td>Integral RV: Yes</td>
</tr>
<tr>
<td>Integration: RV</td>
<td>Option: Non RV version</td>
</tr>
<tr>
<td>Bearing: Extended DU</td>
<td>Shaft Sealing: Packed Gland pressure relieved</td>
</tr>
<tr>
<td>Branches: Flanged 3” ASA 150 lb FF</td>
<td>Option: Double Lip Seal, grease lubricated and pressure relieved</td>
</tr>
</tbody>
</table>

### Materials of Construction

- **Body:** Gunmetal
- **Front Cover:** Gunmetal
- **Back Cover:** Gunmetal
- **Rotors:** Phosphor Bronze
- **Shafts:** 316 Stainless Steel hard chrome plated in bearing and seal areas
- **Bearings:** DU type, PTFE coated on sintered backing

### Performance Details

- **Speed range:** 1000 to 1800 rev/min
- **Output range:** approx. 480 to 1120 l/m
- **Discharge pressure range:** 0 to 20 bar g

Foam Viscosity range: This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 9 cst and at 1800 rev/min is 6 cst.

For foams with viscosities below these figures please contact Albany Sales Office.

### Notes! Pumps for Fire Fighting Vehicles

Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.

If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.

Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.

Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany’s recommended limits as running on water and low viscosity foams will reduce the life of the pump.
### Pump Performance Graph

<table>
<thead>
<tr>
<th>Pump Type</th>
<th>API DH</th>
<th>Viscosity</th>
<th>15 centistokes</th>
<th>Temperature 20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS

## FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

### PUMP

- **Model:** HD3 with bare shaft drive
- **Rotor Type:** Double Helical
- **Mounting:** Foot
- **Branches:** Flanged 1 1/2” ASA 150 lb FF
- **Integral RV:** Yes
- **Bearings:** Extended DU
- **Shaft Sealing:** Packed Gland pressure relieved

<table>
<thead>
<tr>
<th>Option</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange</td>
<td>(see notes below)</td>
</tr>
<tr>
<td>DIN</td>
<td></td>
</tr>
<tr>
<td>Non RV version</td>
<td></td>
</tr>
<tr>
<td>Double Lip Seal, grease lubricated and pressure relieved</td>
<td></td>
</tr>
</tbody>
</table>

### Materials of Construction

- **Body:** Gunmetal
- **Front Cover:** Gunmetal
- **Back Cover:** Gunmetal
- **Rotors:** Phosphor Bronze
- **Shafts:** 316 Stainless Steel hard chrome plated in bearing and seal areas
- **Bearings:** DU type, PTFE coated on sintered backing

### Performance Details

- **Speed range:** 1000 to 2200 rev/min
- **Output range:** approx. 200 to 590 l/m
- **Discharge pressure range:** 0 to 20 bar g

Foam Viscosity range: This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 6 cst and at 1800 rev/min is 4 cst.

For foams with viscosities below these figures please contact Albany Sales Office.

### Notes! Pumps for Fire Fighting Vehicles

- Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.
- If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.
- Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.
- Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany's recommended limits as running on water and low viscosity foams will reduce the life of the pump.
## TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS

### FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

### PUMP

<table>
<thead>
<tr>
<th>Model: HD4 with bare shaft drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotor Type: Double Helical</td>
</tr>
<tr>
<td>Mounting: Foot</td>
</tr>
<tr>
<td>Option: Flange (see notes below)</td>
</tr>
<tr>
<td>Branches: Flanged 2&quot; ASA 150 lb FF</td>
</tr>
<tr>
<td>Option: DIN</td>
</tr>
<tr>
<td>Integral RV: Yes</td>
</tr>
<tr>
<td>Option: Non RV version</td>
</tr>
<tr>
<td>Bearings: Extended DU</td>
</tr>
<tr>
<td>Shaft Sealing: Packed Gland pressure relieved</td>
</tr>
<tr>
<td>Option: Double Lip Seal, grease lubricated and pressure relieved</td>
</tr>
</tbody>
</table>

### Materials of Construction

<table>
<thead>
<tr>
<th>Body: Gunmetal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Cover: Gunmetal</td>
</tr>
<tr>
<td>Back Cover: Gunmetal</td>
</tr>
<tr>
<td>Rotors: Phosphor Bronze</td>
</tr>
<tr>
<td>Shafts: 316 Stainless Steel hard chrome plated in bearing and seal areas</td>
</tr>
<tr>
<td>Bearings: DU type, PTFE coated on sintered backing</td>
</tr>
</tbody>
</table>

### Performance Details

<table>
<thead>
<tr>
<th>Speed range: 1000 to 2200 rev/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output range: approx. 280 to 750 l/m</td>
</tr>
<tr>
<td>Note! See curve: HD4-RV-DH-1800-15CST-1</td>
</tr>
<tr>
<td>Discharge pressure range: 0 to 20 bar g</td>
</tr>
<tr>
<td>Foam Viscosity range: This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 8 cst and at 1800 rev/min is 6 cst.</td>
</tr>
</tbody>
</table>

For foams with viscosities below these figures please contact Albay Sales Office.

### Notes! Pumps for Fire Fighting Vehicles

Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.

If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.

Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.

Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany's recommended limits as running on water and low viscosity foams will reduce the life of the pump.
Pump Performance Graph

Graph No. HD4-RV-DH-1800-15CST-1

<table>
<thead>
<tr>
<th>Pump Type</th>
<th>HD4 DH</th>
<th>Viscosity</th>
<th>15 centistokes</th>
<th>Temperature</th>
<th>20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS

## FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

### PUMP

<table>
<thead>
<tr>
<th>Model: HD5 with bare shaft drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotor Type: Double Helical</td>
</tr>
<tr>
<td>Mounting: Foot</td>
</tr>
<tr>
<td>Branches: Flanged 2 1/2&quot; ASA 150 lb FF</td>
</tr>
<tr>
<td>Integral RV: Yes</td>
</tr>
<tr>
<td>Bearings: Extended DU</td>
</tr>
<tr>
<td>Shaft Sealing: Packed Gland pressure relieved</td>
</tr>
</tbody>
</table>

Option: Flange (see notes below)

Option: 3" ASA and DIN

Option: Non RV version

Option: Double Lip Seal, grease lubricated and pressure relieved

### Materials of Construction

| Body: Gunmetal |
| Front Cover: Gunmetal |
| Back Cover: Gunmetal |
| Rotors: Phosphor Bronze |
| Shafts: 316 Stainless Steel hard chrome plated in bearing and seal areas |
| Bearings: DU type, PTFE coated on sintered backing |

### Performance Details

| Speed range: 1000 to 2200 rev/min |
| Output range: approx. 315 to 900 l/m |
| Discharge pressure range: 0 to 20 bar g |

Foam Viscosity range: This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 11 cst and at 1800 rev/min is 7 cst.

For foams with viscosities below these figures please contact Albany Sales Office.

### Notes! Pumps for Fire Fighting Vehicles

Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.

If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.

Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.

Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany's recommended limits as running on water and low viscosity foams will reduce the life of the pump.
## Pump Performance Graph

### HD5-RV-DH-1800-15CST-1

<table>
<thead>
<tr>
<th>Pump Type</th>
<th>HD5 DH</th>
<th>Viscosity</th>
<th>15 centistokes</th>
<th>Temperature 20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Graph Details

- **Graph No.:** HD5-RV-DH-1800-15CST-1
- **Fluid Type:** Oil
- **Viscosity:** 15 centistokes
- **Temperature at 20°C:**

#### Graph 1:
- **Y-axis:** Litres per minute
- **X-axis:** RPM
- **Lines:**
  - 0 Bar
  - 5 Bar
  - 10 Bar
  - 15 Bar
  - 20 Bar

#### Graph 2:
- **Y-axis:** kw
- **X-axis:** RPM
- **Lines:**
  - 0 Bar
  - 5 Bar
  - 10 Bar
  - 15 Bar
  - 20 Bar
# TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS

## FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

### PUMP

- **Model:** HD7 with bare shaft drive
- **Rotor Type:** Double Helical
- **Mounting:** Foot
- **Branches:** Flanged 3" ASA 150 lb FF
- **Integral RV:** Yes
- **Bearings:** Extended DU
- **Shaft Sealing:** Packed Gland pressure relieved

#### Option:

- **Foot:** Flange (see notes below)
- **DIN:** FF Option
- **Non RV:** Option: Non RV version
- **Double Lip Seal:** Option: Double Lip Seal, grease lubricated and pressure relieved

### Materials of Construction

- **Body:** Gunmetal
- **Front Cover:** Gunmetal
- **Back Cover:** Gunmetal
- **Rotors:** Phosphor Bronze
- **Shafts:** 316 Stainless Steel hard chrome plated in bearing and seal areas
- **Bearings:** DU type, PTFE coated on sintered backing

### Performance Details

- **Speed range:** 1000 to 1800 rev/min
- **Output range:** approx. 660 to 1360 l/m  
  Note! See curve: HD7-RV-DH-1800-15CST-1
- **Discharge pressure range:** 0 to 20 bar g

**Foam Viscosity range:** This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 7 cst and at 1800 rev/min is 5 cst.

For foams with viscosities below these figures please contact Albany Sales Office.

### Notes! Pumps for Fire Fighting Vehicles

- Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.
- If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.
- Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.
- Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany's recommended limits as running on water and low viscosity foams will reduce the life of the pump.
Pump Performance Graph

<table>
<thead>
<tr>
<th>Pump Type</th>
<th>HD7 DH</th>
<th>Viscosity</th>
<th>15 centistokes</th>
<th>Temperature</th>
<th>20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# TECHNICAL INFORMATION SHEET FOR ALBANY FOAM PUMPS
## FIRE FIGHTING VEHICLE MODELS

The Albany Engineering Co. Ltd.

### PUMP
- **Model:** HD8 with bare shaft drive
- **Rotor Type:** Double Helical
- **Mounting:** Foot
- **Branches:** Flanged 4" ASA 150 lb FF
- **Integral RV:** Yes
- **Bearings:** Extended DU
- **Shaft Sealing:** Packed Gland pressure relieved

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange (see notes below)</td>
</tr>
<tr>
<td>DIN</td>
</tr>
<tr>
<td>Non RV version</td>
</tr>
<tr>
<td>Double Lip Seal, grease lubricated and pressure relieved</td>
</tr>
</tbody>
</table>

### Materials of Construction
- **Body:** Gunmetal
- **Front Cover:** Gunmetal
- **Back Cover:** Gunmetal
- **Rotors:** Phosphor Bronze
- **Shafts:** 316 Stainless Steel hard chrome plated in bearing and seal areas
- **Bearings:** DU type, PTFE coated on sintered backing

### Performance Details
- **Speed range:** 1000 to 1800 rev/min
- **Output range:** approx. 850 to 1720 l/m
- **Discharge pressure range:** 0 to 20 bar g
- **Foam Viscosity range:**
  - This is the viscosity of the foam when entering the pump and the range is dependant on speed and pressure, with a discharge pressure of 16 bar g the minimum viscosity at 1200 rev/min is 9 cst and at 1800 rev/min is 6 cst.
  - For foams with viscosities below these figures please contact Albany Sales Office.

### Notes! Pumps for Fire Fighting Vehicles
- Pumps can be mounted in the horizontal position and also inclined within 20 degrees of the horizontal with the foot in the 6, 9, 12 or 3 o'clock position.
- If pumps are to be mounted vertically or at a greater angle than 20 degrees to the horizontal please contact the Albany Sales Office as this may necessitate a thrust bearing.
- Pumps can be driven by hydraulic motor or power transmission shafts, if there is any thrust or side loads the pump can be fitted with an outrigger bearing.
- Albany Foam Pumps are designed to pump foam concentrate. If they are to be tested on water it must be within Albany's recommended limits as running on water and low viscosity foams will reduce the life of the pump.
### Pump Performance Graph

- **Pump Type**: HD8 DH
- **Viscosity**: 15 centistokes
- **Temperature**: 20°C
- **Fluid**: Oil

<table>
<thead>
<tr>
<th>RPM</th>
<th>Litres per minute</th>
<th>kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1000</td>
<td>10.00</td>
<td>30.00</td>
</tr>
<tr>
<td>1200</td>
<td>20.00</td>
<td>50.00</td>
</tr>
<tr>
<td>1400</td>
<td>30.00</td>
<td>70.00</td>
</tr>
<tr>
<td>1600</td>
<td>40.00</td>
<td>90.00</td>
</tr>
<tr>
<td>1800</td>
<td>50.00</td>
<td>110.00</td>
</tr>
<tr>
<td>2000</td>
<td>60.00</td>
<td>130.00</td>
</tr>
</tbody>
</table>

**Graph No.: HD8-RV-DH-1800-15CST-1**