THE WES PRODUCT GUIDE

Specialist manufacturer and supplier of water booster sets, pressurisation units, pumps and ancillaries.
From modest beginnings in 1978 we have steadily grown to become recognised as one of the country's leading independent specialist manufacturers and suppliers of all fluid moving domestic, commercial and industrial equipment, components and spares. We have six branches in the UK and the company is ideally placed to serve the needs of the market.

What ever your requirements are, you can be assured that your response will be met in a prompt, accurate and competitive manor. With our helpful staff we can find the 'best fit' solution that ideally matches your specific requirements.

Even finding a solution that is special order is not a problem. We always have an experienced sales person on hand to help at all times.
WM1E

Heating and chilled water pressurisation equipment

The WM1E is a single pump wall mounted heating or chilled water pressurisation unit, suitable for cold fill pressures up to 3.0 bar (30 Metres).

The WM1E is supplied fully assembled and tested, requiring only the connection of pipework and provision of a suitable electrical supply.

Dimensions

<table>
<thead>
<tr>
<th>WM1E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width: 260mm</td>
</tr>
<tr>
<td>Depth: 350mm</td>
</tr>
<tr>
<td>Height: 1000mm</td>
</tr>
<tr>
<td>Weight: Dry weight 23.5Kg. Wet weight 30.5Kg.</td>
</tr>
</tbody>
</table>

The WES WM1E incorporates:

- Totally enclosed steel cabinet finished in Polyester epoxy paint to RAL-7032.
- A single prewired peripheral pump, mechanical seal, impeller and bronze body fitted.
- 9ltr preformed plastic break tank, WRC approved float valve feeds a 9 litre plastic break tank, complying with the requirements for a type “A” air gap.
- A standard, purpose built, unistrut base plate.
- Digital display controller PIB-M-001-Ektron.

Optional extras

- WES expansion vessels 25ltr – 5,000ltr.
- Floor mounting chassis for use where wall mounting is inappropriate.
- High pressure pump options available upon request.
- Optional high low pressure switches.

PM16DAFE

Heating and chilled water pressurisation equipment

The PM16DAFE is a single pump floor standing heating or chilled water pressurisation unit, suitable for cold fill pressures up to 3.0bar (30 metres).

The PM16DAFE has been designed with economy in mind, and therefore boasts the smallest foot print practical, keeping in mind the need for maintenance. The simple operation of the auto filler unit will maintain your system cold fill pressure, once set in operation.

Dimensions

<table>
<thead>
<tr>
<th>PM16DAFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width: 570mm</td>
</tr>
<tr>
<td>Depth: 700mm</td>
</tr>
<tr>
<td>Height: 580mm</td>
</tr>
</tbody>
</table>

The WES PM16DAFE incorporates:

- A standard, purpose built, unistrut base plate.
- A single prewired peripheral pump, mechanical seal, impeller and bronze body fitted.
- Digital display controller PIB-M-001-Ektron.
- Pressure Transducer of 0 -10 BAR, 4 - 20mA.
- A single prewired peripheral pump, mechanical seal, impeller and bronze body fitted.
- Digital display controller PIB-M-001-Ektron.
- 4 Gallon break tank with ball valve and float.

Optional extras

- WES expansion vessels 25ltr – 5000ltr.
- Volt free alarm contacts for BMS system.

The PM16DAFE automatically controls the pressure in a sealed system. The unit is permanently connected to the heating system delivering water at a predetermined pressure.

Once the system has been initially filled via a quick filling loop the unit will take over and maintain the optimum system conditions.

Should a loss of water occur in the system, for any reason, the pressurisation unit will detect a drop in pressure and automatically start the pump to refill the system, restoring it to the original cold fill pressure.

The PM16DAFE should be floor mounted in a dry, well ventilated position, protected from extremes of heat and cold. The PM16DAFE should be connected to the heating system delivering water at a predetermined pressure.

Once the system has been initially filled via a quick filling loop the PM16DAFE will take over and maintain the optimum system conditions.

Should a loss of water occur in the system, for any reason, the pressurisation unit will detect a drop in pressure and automatically start the pump to refill the system, restoring it to the original cold fill pressure.

The PM16DAFE incorporates:

- A single prewired peripheral pump, mechanical seal, impeller and bronze body fitted.
- Digital display controller PIB-M-001-Ektron.
- 4 Gallon break tank with ball valve and float.

Optional extras

- WES expansion vessels 25ltr – 5000ltr.
- Volt free alarm contacts for BMS system.

Voltage free alarm contact for BMS system.

Recommended and can offer valve filter as necessary. WES recommend and can offer on-site commissioning and annual maintenance service.
**WM2E**

- **Dimensions**
  - Depth: 315mm
  - Height: 630mm
  - Width: 592mm

- **Weight**
  - Dry weight: 40Kg
  - Wet weight: 49Kg

- **Description**
  - The WM2E is a twin pump duty standby wall mounted heating or chilled water pressurisation unit, suitable for cold fill pressures up to 3.0 bar (30 Metres).
  - The WM2E is supplied fully assembled and tested, requiring only the connection of pipework and provision of a suitable electrical supply.

- **Technical Details**
  - The WM2E automatically controls the pressure in a closed system. The unit is permanently connected to the heating system delivering water at a predetermined pressure.
  - Once the system has been initially filled via a quick filling loop the WM2E will take over and maintain the optimum system conditions.
  - Should a loss of water occur in the system, for any reason, the pressurisation unit will detect a drop in pressure and automatically start the pump to refill the system, restoring it to the original set pressure. The control system incorporates a device to rotate the starting sequence of each pump, during normal operation.
  - Used in conjunction with correctly sized WES expansion vessels, the WM2E will maintain optimum system conditions, safeguarding any type of heating or chilled water system.

- **Location**
  - The WM2E should be well mounted in a dry, well ventilated position, protected from extremes of heat and cold.
  - The unit should be secured with brackets, to suit wall type, utilising the four mounting points provided. If wall construction is inappropriate to carry 35Kg the optional floor mounting chassis (WM2EFT) should be used.

- **Pipe installation**
  - Isolating valves should be fitted to both the feed water supply and the system connector. It is recommended that a quick fill loop is fitted to facilitate initial filling.
  - Feed water supply: 1/2” BSP 15mm pipe connection to float valve. The float valve feeds a 9 litre plastic break tank, complying with the requirements for a type “A” air gap. The valve is supplied with a flow restrictor which may be fitted to reduce over spill in the event of water failure.

- **System connection**
  - 1/2” BSP 15mm pipe connection.

- **Turnkey pressurisation equipment**
  - The WES WM2E incorporates:
    - Digital display controller (PIB-M-001).
    - Two prewired peripheral pumps, mechanical seal, impeller and bronze body fitted.
    - Volt free alarm contacts for BMS system.

- **PM16DAFTWE**

- **Dimensions**
  - Depth: 750mm

- **Description**
  - The PM16DAFTWE is a twin pump duty, standby floor standing heating or chilled water pressurisation unit, suitable for cold fill pressures up to 3.0 bar (30 Metres).
  - The PM16DAFTWE is supplied fully assembled and tested, requiring only the connection of pipework and provision of a suitable electrical supply.

- **Technical Details**
  - The PM16DAFTWE automatically controls the pressure in a closed system. The unit is permanently connected to the heating system delivering water at a predetermined pressure.
  - Once the system has been initially filled via a quick filling loop the PM16DAFTWE will take over and maintain the optimum system conditions.
  - Should a loss of water occur in the system, for any reason, the pressurisation unit will detect a drop in pressure and automatically start the pump to refill the system, restoring it to the original set pressure.
  - The PM16DAFTWE incorporates a device to rotate the starting sequence of each pump, during normal operation.

- **Location**
  - The PM16DAFTWE should be floor mounted in a dry, well ventilated position, protected from extremes of heat and cold.

- **Electrical connection**
  - The PM16DAFTWE should be connected to a 240 volt 50 Hz single phase supply via a fused switched outlet fitted with a 3 Amp fuse.

- **Commissioning**
  - Before operating the unit ensure electrical isolation and check for correct operation of float valve, adjust if necessary. Ensure all fittings are free from leaks, release the vent plug on the pump body, until all air has been expelled. Warning: Do not over tighten the vent plug as this may lead to damage and leakage.

- **Periodic maintenance**
  - Adjust cold fill pressure as necessary. Examine and clean float valve filter as necessary. Periodic maintenance is recommended and can be on-site commissioning and annual maintenance service.
Heating and chilled water pressurisation equipment

The PM16BAFE is a floor standing heating and chilled water pressurisation unit suitable for cold fill up to 3.0bar (30mtrs)

The PM16BAFE pressurisation unit has the same working components and capability as the PM16DAFE but uses one common base to house the pump unit, panel and the system expansion vessel. All interconnecting pipework between the filler and the expansion vessel is completed in our works.

The PM16CAFE is a cabinet housed heating and chilled water pressurisation unit suitable for cold fill up to 3.0bar (30mtrs)

The PM16CAFE pressurisation unit has the same working components and capability as the PM16DAFE but is the ideal solution to your problems where plant room floor space is at a premium. The system expansion vessel is housed in the cabinet directly below the pump unit. All interconnecting pipework between the filler and the expansion vessel is completed in our works.

The WES PM16BAFE and PM16CAFE incorporates

- PM16BAFE one unistrut base plate.
- PM16CAFE one mild steel powder coated cabinet.
- A prewired peripheral pump with mechanical seal, impeller and bronze body fitted.
- Digital display controller PIB-M-001-Ektron.
- Pressure transducer of 0-10bar 4-20MA.
- 4 gallon break tank c/w ball valve and float.
- System sized expansion vessel ranging from 24ltr – 5000ltr. Sized to site requirements.
- Volt free alarm contacts for BMS.
- Cabinet model 2x door lock key operated.
- **Optional extras**
  - High pressure pumps.
  - Option to have with high low pressure switches.
  - Two pump duty standby option.

**Equipment Details**

- **Pumps** Bronze peripheral turbine pumps with copper pipework. Vertical or end suction stainless steel pumps with stainless steel manifolds.
- **Pump Control Vessel** Suitable for 10 bar working pressure with E.P.D.M rubber diaphragm. Higher pressure rating vessels and intermediate vessels where necessary.
- **Power supply** Single phase or three phase up to 2.2 kW, three phase over 2.2 kW.

**WesPress units are pressurisation sets that have been designed for specific needs, please contact the Water Engineered Solutions technical team for assistance when dealing with these system types.**

**High Pressures**

We are able to supply WesPress sets for pressures of up to 25 bar.

**Control Panel Features**

- UPS: Digital interlocked isolator | Motor controllers and starters | Electronic controller with 3 assignable keys for remote indication.

**Display incorporating:-**

- System high/low pressure alarm | Operating pressure | Set pressure | Low water | Pump run/trip | Sensor error | Operating pressure | System high/low pressure | Hours run | Fault log

**Spill Tank**

- High temperature GRP or Stainless steel | WRAS Category 5 type AB air gap | Level controls including low level alarm | WRAS approved solenoid fill valve.

**Pump Module**

- Two or triple pumps | 230-1-50 or 400-3-50 | Available for use up to 25 bar | High temperature sets available | Solenoid or self acting spill valves.

The WesPress range has been designed for use on larger systems and tall buildings or where there is a need to limit the maximum working pressure. The compactness of the units may also be a great advantage where the available floor space is limited. All WesPress units are designed to give a compact solution to the control of expansion in larger heating/chilled water systems with a closed low atmospheric tank to accept the system expansion and re-fill the system upon contraction.

The twin pump design operates duty/standby and the triple pump packages are designed to operate duty/standby/autocycle over one pump run and elimination of a pump from the cycle on pump trip.

Smaller sets are typically fitted with a solenoid type spill valve whilst larger sets are supplied with one or more high quality self acting spill valves. The self acting valves allow excess pressure to be relieved back into the tank even in the event of a power failure.

A full digital control panel is fitted to the unit which gives an audible and visual alarm indication with mute, password protection and hours run log and has set free contacts for BMS connection.

The WesPress tanks are manufactured from high temperature GRP or Stainless Steel and are designed to accept the full expansion of the system, level control is fitted as standard.

All tanks have an overflow and spill over weir to give a WRc Category 5 compliant type AB air gap.

All WesPress units are fully factory tested before dispatch.

When operating the system above 90°C higher pressures will be required to eliminate vaporisation. Additionally intermediate cooling buffer vessels may be necessary. As the WesPress for these applications is customised to specific needs, please contact the Water Engineered Solutions technical team for assistance when dealing with these system types.

**Applications**

- High temperatures
- High pressures
- High temperature GRP or Stainless steel | WRAS Category 5 type AB air gap | Level controls including low level alarm | WRAS approved solenoid fill valve.
PRESSURISATION SYSTEMS

WESflex pressurization systems always consist of a control unit, hydraulic system and one or more tanks. An almost limitless number of individual solutions can be developed by the wide range of coordinated components and the extremely precise control concept. For office buildings with 100kW heat outputs as well as for combined heat and power plants with 300 MW, for hot water up to 250 °C or cooling water down to -10 °C, for low-rise buildings with a static height of up to 10 m and high-rise buildings up to a height of 200m, as well as for complex hydraulic systems.

WESflex Control - the new control unit
Compact design, ease of operation and the highest degree of functionality. Getting to the heart of the new WESflex Control unit. All functional elements are clearly arranged and easily accessible; the entire control electronics is protected by a housing with a well thought-out wiring design, resulting in a space-saving, free-standing system* that sets new benchmarks in dynamic pressure maintenance. The new control scheme is rounded off by two versions of innovative control systems.

Control Touch:
• Intuitive operation by touch display
• Simply structured plain text menus including operating instructions and help texts
• Integrated control of pressure and degassing (where fitted) and controlled water make-up
• Permanent display of the most important operational data
• Extensive interfaces (including: 1 x floating digital contact water meter, 2 x analog parameterizable outputs, 2 x RS 485, 1 x TTL, plugs for Bluetooth module, HNS networks and KNX module, as well as an SD card)
• Master-slave operation and group operation optionally available

Control Basic:
The Control Basic is used with the smallest WESflexomat and Variomat units. This simplified range has a key-based operation and features a 2-line LCD display. It has a collective error signal and an RS 485 interface, as well as a digital contact water meter, otherwise its construction is identical to that of the Touch version.

Top-quality tanks
All the tanks for WESflex pressurization systems are, of course, CE type-tested. The diaphragm used comply with the requirements of DIN 4807 T5. They have been manufactured in accordance with the highest technical standards and guaranteed an absolutely secure diffusion barrier, i.e. a consistently closed system towards the atmosphere.

*The control unit is positioned directly on the tank with the WESflexomat Compact.

WESflexomat and WESflexomat Compact (compressor-controlled)

- Nominal volume of WESflexomat 200-5,000 litres, WESflexomat Compact 200-500 litres
- Control unit:
  • Pressure maintenance with 1 or 2 compressors
  • Overflow valves
- Variomat (pump-controlled)

- Nominal volume of 200-5,000 litres, non-standard sizes up to 10,000 litres on request
- Control unit:
  • Combined unit for pressure maintenance using 1 or 2 pumps
  • Overflow valves
  • Atmospheric degassing
  • Overflow valves in the form of motorized ball valves with patented circuitry for automatic hydraulic balancing
  • Soft-start for pumps (with the Variomat 2)

Variomat Giga (pump-controlled, for particularly high outputs and pressures)

- Nominal volume of 1,000-5,000 litres, non-standard sizes up to 20,000 litres on request
- Control unit:
  • Combined unit for pressure maintenance using 2 pumps
  • 2 overflow valves
  • Atmospheric degassing
  • Overflow valves in the form of motorized ball valves with patented circuitry for automatic hydraulic balancing
  • Minimum pressure maintenance by means of additional solenoid valve
  • Non-standard systems for securing temperatures of >110°C and >PN16 in accordance with EN 12953 and TRD 604 page 2
For a proposal please fill in this form and fax back to 01539 733734 or a form can be filled in on our website www.waterengineeredsolutions.co.uk and e-mailed to us.

<table>
<thead>
<tr>
<th>Company Name</th>
</tr>
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<tbody>
<tr>
<td>Company Address</td>
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<tr>
<td>Contact</td>
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<td>Fax Number</td>
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<tr>
<td>Email Address</td>
</tr>
<tr>
<td>Site Reference</td>
</tr>
<tr>
<td>Total Boiler Output</td>
</tr>
<tr>
<td>Static Head of System</td>
</tr>
<tr>
<td>Flow Temperature</td>
</tr>
<tr>
<td>Return Temperature</td>
</tr>
<tr>
<td>Safety Valve Setting</td>
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<tr>
<td>Final Working Pressure</td>
</tr>
<tr>
<td>Single Pump or Duty / Standby</td>
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<tr>
<td>Wall Mounted or Floor Standing</td>
</tr>
<tr>
<td>Electronic or Hi/Lo Pressure Switch</td>
</tr>
<tr>
<td>Vessel required (size if known)</td>
</tr>
<tr>
<td>Any other requirements</td>
</tr>
</tbody>
</table>

**WES SERIES - fixed speed version operation:**

As system water is drawn off the pressure within the hydro-pneumatic accumulator will decrease. The accumulator contains a small amount of water under pressure to meet limited system demand. During prolonged demand, the pressure in the accumulator will decrease and eventually upon demand from the pressure switch the pump will automatically cut-in.

The pump will continue to run until such time as the system has been satisfied and the pressure has been restored in the accumulator.

**Pump details:**

High pressure centrifugal stainless steel construction suitable for potable water, condensate and water / glycol mixtures up to 40% glycol content.

**Pump control:**

Via pressure switch.

**WES SERIES - variable speed version operation:**

**Pump control**

The converter detects the instantaneous pressure in the system through the pressure transmitter and adjusts motor speed to keep it at the required value.

**Pressure control switch**

The pressure is read directly on the pressure gauge.

The water level can be monitored with a float switch.

A clean 230V 1A alarm contact is available for signalling purposes (LED or buzzer).

A surge tank of at least 8 litres is fitted.

A pressure transducer of 0-10 Bar 4-20mA.
MULTIPLE PUMP WATER BOOSTER SETS

Our standard booster sets generally come in one, two, or three pump versions depending on your system requirements although we can accommodate any number and sequence of pumps.

All booster sets operate in the same general configuration.

Two pump sets
Two pump sets can be sized as 100% duty and 100% standby or duty assist mode with the total set duty split equally between the two pumps i.e. 50% each.

Three pump sets
Three pump sets can be sized in two different ways, either in duty assist standby function so each pump is 50% of total duty or in duty assist assist formation so each pump is 33.33% of total duty.

Multiple pump sets
Any number of pumps can be used and controlled upon receipt of your parameters.

Operation - variable speed sets
A request for water generates a pressure drop in the system; the first pump starts and if its capacity is sufficient to compensate the request, it keeps the pressure at the set value. Otherwise, when the first pump reaches maximum speed, the second pump starts to assist the first. When the request for water terminates, the system stops.

- Low water level protection
- Volt free contacts for BMS
- Automatic timed change over for equal running of the pumps
- Pump and inverter failure protection so standby pump will operate

Optional sets
- Standard two, three, four and multiple pump sets
- Variable speed or fixed speed sets
- Bespoke sizes for best fit
- Tanks and frame mounted sets. Tank mounted above pump set on a purpose built stillage

Our standard booster sets generally come in one, two, or three pump versions depending on your system requirements although we can accommodate any number and sequence of pumps.
The WESvari incorporates:

- Integral water storage with Class AB air gap ie. Category 5.
- Duties up to 1 l/s.
- Head up to 4.2 Bar.
- Actual usable tank capacity 180 litres.
- Adjustable feet for easy levelling.
- Internal vessel for smooth pump control and minimising the number of pump starts.
- Input / output isolation valves for ease of maintenance and commissioning.
- Low water protection.
- Application, domestic dwellings.

Residential variable speed booster set

An ever increasing demand on our water supply lines can sometimes lead to poor performance at the point of use due to low pressures, especially at peak demand periods. In addition to this, water supply companies in some parts of the country are reducing pressures to avoid excessive water loss through leaks.

A WES professionally sized and installed booster set will provide a perfect solution to overcoming low water pressures around the home. Installing a WES booster set will ensure that water pressures for both hot and cold supplies will be able to cover the most demanding requirements.

The WESvari (variable speed) booster set will give energy savings over the lifetime of the pump and provide a very stable pressure platform irrespective of the number of outlets being used simultaneously.

Assist unit

Where a larger water storage volume is required an assist unit can be added to give an additional 180 litres of water storage.

WESVARI RUN AROUND COIL

Water Engineered Solutions design and manufacture our own range of run around coil pump sets that are tailor made to fit an individual heat recovery system. The pipework is charged with a heat exchange fluid, normally water, which picks up heat from the exhaust air coil and gives up heat to the supply air coil before returning again. Thus heat from the exhaust air stream is transferred through the pipework coil to the circulating fluid, and then from the fluid through the pipework coil to the supply air stream. All sets are fitted with a high efficiency centrifugal pump and an expansion vessel which is designed to accommodate changes in the system fluid pressure.

### Table: Number of Occupants and Requirements

<table>
<thead>
<tr>
<th>Number of Occupants</th>
<th>Max. Expected Flow</th>
<th>Minimum Pressure</th>
<th>Minimum Storage Requirement</th>
<th>Standard Booster Set</th>
<th>Booster set with Slave Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.4</td>
<td>4.2 bar</td>
<td>105 Lts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.5</td>
<td>4.0 bar</td>
<td>130 Lts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.6</td>
<td>3.8 bar</td>
<td>150 Lts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.7</td>
<td>3.6 bar</td>
<td>180 Lts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.8</td>
<td>3.2 bar</td>
<td>200 Lts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>2.7 bar</td>
<td>300 Lts</td>
<td></td>
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</tr>
</tbody>
</table>

**Power supply**
- 230-1-50
- Protection IP65

**Pump Type**
- Snail S205C: 230-1-50
- Input current: 4.37A

**System connections**
- Mains incoming water supply: 15mm
- Overflow: 22mm
- System connection: 22mm

**Materials**
- Cabinet: Powder coated steel
- Water tank: Polyethylene
- Ball valve 1/2": Brass to BS1212 part 2
- Pump: AISI 304 Stainless steel
- Pipework: Copper
- Compression fittings: Brass
- Isolation valves: Brass
- Plastic fittings: Polypropylene
- Tank insulation: Polyisocyanurate (PIR)
- Anti-spin bracket: AISI 304 Stainless steel
- 8 litre vessel: Powder coated steel with Butyl membranes

**Dimensions**
- Depth: 620

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Water Engineered Solutions design and manufacture our own range of run around coil pump sets that are tailor made to fit an individual heat recovery system. The pipework is charged with a heat exchange fluid, normally water, which picks up heat from the exhaust air coil and gives up heat to the supply air coil before returning again. Thus heat from the exhaust air stream is transferred through the pipework coil to the circulating fluid, and then from the fluid through the pipework coil to the supply air stream. All sets are fitted with a high efficiency centrifugal pump and an expansion vessel which is designed to accommodate changes in the system fluid pressure.
ASSESSMENT OF PROBABLE DEMAND

The method adopted is based on loading unit values as detailed in the Plumbing Engineering Design Guide published by the Institute of Plumbing.

When designing a hot or cold water supply system an assessment must be made to obtain the maximum probable simultaneous demand.

Depending on the type of services being provided it rarely occurs for all the appliances to be used at the same time therefore the design usually allows for a peak usage which is less than the maximum.

Probable demand will depend on the type of building and its use, type of appliances installed and frequency of use.

The simultaneous demand in most installations can be calculated with an adequate degree of accuracy using the loading unit concept.

The usage patterns and types of appliances in different installations will vary greatly. Sports and Leisure centres for example are usually calculated directly by the flow rates of each appliance, without diversity factors. Each case will need to be looked at in its own right and assessed accordingly. Judgement of the designer must prevail.

Loading unit values vary for each type of appliance. A loading unit has no precise value in terms of litres per second. See loading unit table below.

By multiplying the total number of each appliance by the appropriate loading unit number and adding the resultant totals together, the recommended flow can be read from the chart.

Loading Unit Table

<table>
<thead>
<tr>
<th>APPLIANCE</th>
<th>LOADING UNIT</th>
<th>Recommended Flow L/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC</td>
<td>1.5</td>
<td>0.12</td>
</tr>
<tr>
<td>Wash Basin (hot &amp; cold)</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>Sink (hot &amp; cold)</td>
<td>6</td>
<td>0.4</td>
</tr>
<tr>
<td>Bath (hot &amp; cold)</td>
<td>20</td>
<td>0.6</td>
</tr>
<tr>
<td>Shower (hot &amp; cold)</td>
<td>0.8</td>
<td>0.24</td>
</tr>
<tr>
<td>Washing Machine</td>
<td>10</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Working Example

A block of standard flats containing a total of 70 dwellings

Each standard flat is assumed to have:

1 x Hand basin hot & cold = 3 L/U x 70 = 210
1 x WC cold only = 1.5 L/U x 70 = 105
1 x Shower hot & cold = 10 L/U x 70 = 700
1 x Sink hot & cold = 6 L/U x 70 = 420

Total Loading Unit = 1435

This figure can now be read from the chart opposite:

total flow = 8.5 L/s

For a proposal please fill in this form and fax back to 01539 733734 or a form can be filled in on our website www.waterengineeredsolutions.co.uk and e-mailed to us.
WEStanks has built a reputation for supplying quality products and services to clients across Europe for the past four decades. We continue to be a major force in the supply of Glass Reinforced Plastics (GRP). We specialise in Cold Water Storage tanks. All tanks are WRAS and LPCB approved. To complement our GRP Range of water tanks and cisterns we also supply the following services and products that maybe of interest to you...

**WATER STORAGE TANKS**

**Sectional GRP Tanks**

We supply and install sectional water storage tanks. These tanks are hot press moulded panels designed and manufactured to British, European and Singapore Standards for worldwide usage.

Many companies use subcontractors for this service; we do not, as we have our own engineers. This helps enormously when it comes to coordinating delivery and installations.

**One-piece & Two-piece GRP Tanks**

WES stock a standard range of smaller one-piece tanks, that are also available in two-piece format. Our two-piece tank range is ideal for buildings with tight access restrictions. All our tanks are water tested prior to dispatch to ensure you receive a quality product that arrives ready to use. We also offer bespoke tanks that can be customised to meet your needs.

**WES Parts and Accessories**

We can provide a full range of tank accessories and parts. If you need anything at all for your tank we can supply it! Ball valves, drop-arrows, floats, tank connectors, level switches, gaugings, flanges, insulation, tank lids, GRP boards the list goes on!

**WES aftercare**

Because of our extensive experience in water tanks we have recently launched our new Repair and Maintenance Division. We offer an onsite Consultancy Program giving the client a recommendation of works in a detailed report. Works included but not limited to: recommendations, tank upgrades, full tank services, connection or fitting replacements, cleaning and chlorination, tank strip-out and replacements.

**GRP Housings & Enclosures**

We now offer GRP Housings & Enclosures. GRP Housings are available in any size or colour and can be made to meet your exact requirements. We can modify our designs to fit your specific needs.

Our GRP Housings are all-purpose and can be used for multiple reasons. They are ideal for Tank Rooms, Pump Housings, Water Boxes, Electrical or Gas Kiosks, Cabinets, and/or Substations.

**ANTI SURGE VALVES**

Anti surge valves offer pipe system protection by dampening the effect of water-hammer at the pump start up. Provides vacuum protection when the pump stops and the riser drains.

**Automatic Surge Protection**

The unique Combination Surge Arrestor and Air Release Valve RBXB511 incorporated as standard, three design features to automatically protect building risers under all operating conditions, from the destructive surge and water hammer phenomena. These features are independent of any mechanical devices ensuring reaction in a very low millisecond time span.

**Vacuum protection**

The RBXB511 large orifice admits air in the riser to prevent vacuum occurring when the booster set is down (power off).

**Effective Air Release**

During filling, air is forced through an “Anti-Shock” orifice resulting in the deceleration of the approaching water velocity resulting in the deceleration of the approaching water column due to the resistance of rising air pressure in the valve. This dampens potential pressure transients when the air valve closes. The RBXB511 design ensures effective de-aeration under all pipeline flow and operating conditions, via either one of three discharge orifices.

**Guaranteed Performance**

The RBXB511 has been designed and developed to provide the optimum reliable and safe performance relative to all functions. Selection data has been substantiated through third party testing and can therefore be confidently referenced.

**Typical Arrangement**

The RBXB511 valve must be installed at the top of each riser to ensure adequate water-hammer protection. A suitable isolating valve also should be installed.

**Important Note**

The Surge Arrestor is prone to leaking if exposed to pipe fluctuations, etc. The pipeline must therefore be adequately flushed prior to installation, then a 1” 100 micron “Y” strainer fitted to protect the valve during service.

**Dimensions**

- **Size** = 25mm / 1 inch
- **Pressure rating** = PN25
- **Diameter** = 120mm
- **Height** = 335mm
- **Weight** = 5kg
- **Maximum (riser) pipe dia** = 200mm
ACCESSORIES

Anti vibration mounts
Anti vibration mounts are an optional extra. They can be factory fitted or supplied loose for fitting by the installer. They are designed to reduce the effect of vibration when a booster set starts and runs.

Stainless flexible connectors
Stainless flexible connectors are an optional system extra. We advise that a flexible connector be fitted on the suction pipe and another on the discharge pipe. These are supplied loose and are to be fitted by the installer on either header. Stainless connectors are designed to reduce hydraulic noise and system vibration.

Low water protection
Water Engineered Solutions strongly recommend that some form of low water protection is fitted on to water boosting systems. There are various ways of doing this, from tank style float switches to in-line probe type sensors. This is designed to protect the pumping system from dry running.

COMMISSIONING AND SERVICE

All pressurisation units and booster set are pre-commissioned within our factory. We can also pre-commission to specific site requirements. Water Engineered Solutions recommends that on both pressurisation and booster equipment an on-site commissioning be done after the set has been installed. This is ensuring that the installed unit is working to it’s maximum efficiency to the site conditions, which maybe slightly different to those given at the time of order.

Water Engineered Solutions also strongly recommend an annual service on all pressurisation and booster equipment. This ensures the the unit can work to its full potential and reduce any faults that may occur outside the warranty period.

We can offer and set up an annual service agreement with the customer, once the commissioning has been done.

All pressurisation and booster sets come with a standard 12 month guarantee.
Water Engineered Solutions are pleased to be associated with

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