Table 3: Water Supply

Materials that are not on the following table MUST be approved by Council – refer to – Chief Engineer

Note: All parts of the water supply system in contact with drinking water need to be designed using components and materials that comply with AS/NZS 4020

<table>
<thead>
<tr>
<th>Category / Material</th>
<th>Application</th>
<th>Standard</th>
<th>Product / Comment</th>
<th>Recommended Manufacturer</th>
<th>Recommended Supplier</th>
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<tbody>
<tr>
<td>AM-3.1</td>
<td>Water Pipe</td>
<td>Bulk water mains: larger than 200mm Ø. These to be specifically approved and specified by Council. Principal mains: 100mm, 150mm and 200mm Ø either uPVC or PE Rider mains: 50mm Ø (ID PVC), 63mm Ø (OD MDPE/PE 80) Services: 20mm, 25mm, 40mm and 50mm Ø</td>
<td>NZS 4442 or AS 1579</td>
<td>• Rubber ring joints and Polyken YG111 external wrapping or speed steel with polyethylene coatings • Internal linings include concrete, epoxy and galvanised</td>
<td>Steelpipe New Zealand</td>
</tr>
<tr>
<td>AM-3.1.1</td>
<td>Spiral-Welded Steel Pipe</td>
<td>Generally (but not limited to) bulk mains unless otherwise approved</td>
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</tbody>
</table>
| AM-3.1.2 | Ductile Iron Class K9 | Bulk mains unless otherwise approved | AS/NZS 2280 and amendments | Light cement lined with Tyton joints. External protection with greensleeve
• Generally suspended pipes and high structural loadings | Tubemakers of Australia | Mico Pipelines |
| AM-3.1.3 | Ductile Iron Pipe, Light Cement Lined Tyton Excel PN20 and PN35 | Bulk mains unless otherwise approved | AS/NZS 2280 and amendments | With Tyton joint elastomeric seals and socket/spigot joints (with blue polyethylene sleeving) not for use in high water table areas
• Pentair Licence #SMK0883 | Asmuss Pentair | Asmuss Pentair |
| AM-3.1.4 | PVC Pipes and Fittings for Pressure Applications | Bulk, principal and rider mains | AS/NZS 1477 | Coloured white
• Joints should be spigot and socket rubber ring type (Z joint). Solvent cement joint should not be used
• IPLEX Licence #SMK02570
• RX Plastics Licence Tel.Lic0001 | IPLEX Pipelines New Zealand Ltd
Marley New Zealand Limited
RX Plastics Ltd | IPLEX Pipelines New Zealand Ltd
Marley New Zealand Limited
RX Plastics Ltd | Humes Pipeline Systems
Hynds Pipe Systems Ltd
Mico Pipelines |
| AM-3.1.5 | uPVC | Bulk, principal and rider mains | AS/NZS 1477 | Joints should be spigot and socket rubber ring type (Z joint). Solvent cement joint should not be used
• IPLEX Licence #SMK02570
• RX Plastics Licence Tel.Lic0001 | IPLEX Pipelines New Zealand Ltd
Marley New Zealand Limited
RX Plastics Ltd | IPLEX Pipelines New Zealand Ltd
Marley New Zealand Limited
RX Plastics Ltd | Humes Pipeline Systems
Hynds Pipe Systems Ltd
Mico Pipelines |
| AM-3.1.6 | mPVC RRJ | Bulk, principal and rider mains | AS/NZS 4765: Series 2 | Joints should be spigot and socket rubber ring type (Z joint). Solvent cement joint should not be used | IPLEX Pipelines New Zealand Ltd
Marley New Zealand Limited
RX Plastics Ltd | IPLEX Pipelines New Zealand Ltd
Marley New Zealand Limited
RX Plastics Ltd | Humes Pipeline Systems
Hynds Pipe Systems Ltd
Mico Pipelines |
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<tr>
<th>Category / Material</th>
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<tbody>
<tr>
<td>AM-3.1.7</td>
<td>Polyethylene Pipe (MDPE)</td>
<td>Mains up to and including suggest 50mm (63mm OD)</td>
<td>AS/NZS 4130 and amendments</td>
<td>Pipelines should be butt or fusion welded in accordance with the manufacturer’s recommendations, and the standard coloured blue or blue jacket</td>
<td>IPLEX Pipelines New Zealand Ltd</td>
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<td>PE80, PN12.5, SDR11 Pipes &gt;63mm OD should be PE100</td>
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<td>Unrestrained mechanical couplers can be used where appropriate and meets relevant NZ standard</td>
<td>Humes Pipeline Systems</td>
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<td>▪ IPLEX Licence #SMKP20400</td>
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<td>▪ RX Plastics Licence #SMKP21662</td>
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<td>Mico Pipelines</td>
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<td>AM-3.1.8</td>
<td>Polyethylene Pipe (HDPE)</td>
<td>Mains 100mm Ø (125mm OD) and greater</td>
<td>AS/NZS 4130 and amendments</td>
<td>Pipelines should be butt or fusion welded in accordance with the manufacturer’s recommendations, and the standard coloured blue or blue jacket</td>
<td>Asmuss Water Systems</td>
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<td></td>
<td>PE100, PN12.5, SDR13.6</td>
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<td>Unrestrained mechanical couplers can be used where appropriate and meets relevant NZ standard</td>
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<td>Hynds Pipe Systems Ltd</td>
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<td>Mico Pipelines</td>
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<tr>
<td>AM-3.1.9</td>
<td>Copper Tube 20-50mm Half-Hard</td>
<td>BPD on service mains</td>
<td>NZS 3501</td>
<td>For use with RPZ backflow prevention devices only</td>
<td>Mico Metals</td>
</tr>
<tr>
<td>AM-3.2</td>
<td>Seal Rings</td>
<td>Comply with AS 1646.1</td>
<td>Elastomeric seals for waterworks purposes</td>
<td>NZ Channel Forms Ltd</td>
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<tr>
<td>AM-3.3</td>
<td>Fittings</td>
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</table>
| AM-3.3.1            | Cast-Iron Socket and Spigot Fittings  
                    Cast-Iron Flanges | Flanges to be to AS 4087-2011 with required pressure (PN) rating to be specified. Flange coatings to be to AS/NZS 4158 | • Rated at PN16 or higher  
                   • Epoxy coated | Gillies Metaltech | HJ Asmuss & Company Limited |
| AM-3.3.2            | Ductile-Iron Pipe  
                    Flanges, Socket and Spigot Fittings  
                    Flanges | Flanges to be to AS 4087-2011 with required pressure (PN) rating to be specified. Flange coatings to be to AS/NZS 4158 | | Crevet Pipelines  
                    Tyco Flow Control Pacific | Humes Pipeline Systems  
                    Hygrade Products Ltd  
                    Mico Pipelines |
| AM-3.3.3            | Stand-Alone Flanges | Flanges to be to AS 4087-2011 or AS 2129 (for mild steel) with required pressure (PN) rating to be specified. Flange coatings to be AS/NZS 4158 | • PVC, ductile or cast-iron  
                   • Steel and tube – unflanged adaptor – ductile iron | IPLEX Pipelines New Zealand Ltd  
                    Marley New Zealand Limited  
                    Steel and Tube Holdings Limited  
                    Tyco Flow Control Pacific | Humes Pipeline Systems  
                    Hynds Pipe Systems Ltd  
                    Mico Pipelines |
| AM-3.3.4            | Bolts, Nuts and Washers to be Hot-Dipped Galvanised as an Alternative to 316-Grade Stainless Steel | AS/NZS 1111 and 1112 | • ISO metric hexagon commercial bolts and screws and ISO metric hexagon nuts, including thin nuts, slotted nuts and castle nuts | Manufacturer who meets the required standard | Humes Pipeline Systems  
                    Hynds Pipe Systems Ltd |
| AM-3.3.5 | Stainless Steel Bolts, Nuts and Washers are acceptable alternatives to Hot-Dipped Galvanised Fastenings, provided they are 316-Grade Stainless Steel with Factory Applied Molybond Coating | Complying with AS 1252 – high strength steel fastenings | • Hot-dipped galvanised bolts, nuts and washers need to be wrapped in denso tape  
• This particularly applies for corrosive soil and marine conditions | Manufacturer who meets the required standard | Mico Pipelines | Humes Pipeline Systems  
Hynds Pipe Systems Ltd  
Mico Pipelines |
| AM-3.3.6 | Gibaults  
- Cast-Iron (coating as per standard)  
- M16 316 Stainless Steel (with clips fusion coating as per standard) | AS/NZS 4158 and amendments  
Coating to ASTM A276 | • Use 316-grade stainless steel bolts as a preference  
• Use 316-grade stainless steel fasteners | Gillies Metaltech  
Viking Johnson – Maxifit (with Sheraplex coated bolts)  
Crevet Pipelines  
Milnes Pty Ltd  
Tyco Flow Control Pacific | Gillies Metaltech  
Viking Johnson – Maxifit (with Sheraplex coated bolts)  
Crevet Pipelines  
Milnes Pty Ltd  
Tyco Flow Control Pacific | Humes Pipeline Systems  
Hynds Pipe Systems Ltd  
Mico Pipelines |
| AM-3.3.7 | Unrestrained Mechanical Couplings  
Up to 200mm DI barrels and backing rings or SS barrels with DI backing | AS/NZS 4998  
AS/NZS 4158 | • Use hot-dipped galvanised bolts as per 3.1.4 or 316-grade stainless steel bolts  
• Use 316-grade stainless steel fasteners | Gillies Metaltech  
Viking Johnson  
Crevet Pipelines | Gillies Metaltech  
Viking Johnson  
Crevet Pipelines | Humes Pipeline Systems  
Hynds Pipe Systems Ltd |
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</table>
| - Ductile-iron (nylon coating as per standard)  
- M16 316-Grade Stainless Steel Barrel (with clips fusion coating as per standard) | rings. Above 200mm note in item 1 | | | Milnes Pty Ltd  
AVK Australia Pty Ltd  
Tyco Flow Control Pacific (recommended for Gibaults >200mm (ID)) | Mico Pipelines |
| AM-3.3.8 MDPE Fittings | | AS/NZS 4129 | - Agru butt welding and electro fusion fittings  
- “Plassim” MDPE fitting to AS/NZS 4129 – Licence No: WMKA21062  
- “Magnum” MDPE fitting to AS/NZS 4129 – Licence No: SMK02432  
- Viking Johnson aqua fast, aqua grip and ultra-grip mechanical fittings for polyethylene pipe  
- Hawle System 2000 mechanical fittings for polyethylene pipe  
- Innogaz  
- Marley Licence #1271  
- Plsson Licence #1494 and 1271  
- Asmuss Alprene A16 Easygrip Licence #1157  
- Plsson series one pushfit fitting  
- Hawle HAKU Saddle No.5250 | IPLEX Pipelines New Zealand Ltd  
Marley New Zealand Limited  
Plsson  
Waters & Farr  
Friar Couplings  
George Fischer | Asmuss Plastic Systems Limited  
Hygrade Products Ltd  
RX Plastics Ltd  
Humes Pipeline Systems  
Hynds Pipe Systems Ltd  
Mico Pipelines  
IPLEX Pipelines New Zealand Ltd |
| AM-3.3.9 Brass Fittings Alloy 486 | | AS 1567 – 486  
ASTM – B21  
485000 | - Recommend New Zealand manufacturer due to variability of imported materials | Spartan Engineering Co. Ltd | Humes Pipeline Systems |
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</table>
| AM-3.3.10           | Manifold    |          | ▪ Acuflo GM900STR Bronze Manifold Assembly  
▪ Acuflo CM2000 Compostible Manifold | Acuflow Industries Ltd | Humes Pipeline Systems  
Hynds Pipe Systems Ltd |
| AM-3.3.11           | Ferrules: Gunmetal Polyethylene Fittings |          |                   |                          | Humes Pipeline Systems  
Hynds Pipe Systems Ltd  
Mico Pipelines |
| AM-3.3.12           | Gaskets     | Potable water supply fittings | ▪ Garlock 2500 Gasket | Garlock Sealing Industries | Blackwoods Paykels |
| AM-3.4              | Valves      |          |                   |                          | Gillies Metaltech  
Tyco Flow Control Pacific  
Crevet Pipelines  
Hawle  
AVK Australia Pty Ltd  
Hygrade Products Ltd  
Pipe & Infrastructure Ltd  
Crevet Pipelines  
Hawle  
AVK Australia Pty Ltd  
Hygrade Products Ltd  
Pipe & Infrastructure Ltd |
| AM-3.4.1            | Sluice Valves ≥80mm Resilient Seated Anti-Clockwise Closing Rated at PN16 External and Internal Protective Coating Flanges to be Raised Face and Drilled as Per Standard | Bulk, principal and rider mains | ▪ Teflon gland packing or 2 or more O ring seals and dust cover  
▪ In-line valves should be the same diameter as the reticulation main  
▪ Pentair Licence #PRD / R61 / 0412 / 2  
▪ Hawle Licence #SMK20123  
▪ AVFI non-rising stem resilient valve DN375 | Gillies Metaltech  
Tyco Flow Control Pacific  
Crevet Pipelines  
Hawle  
AVK Australia Pty Ltd  
Hygrade Products Ltd | Humes Pipeline Systems  
Hynds Pipe Systems Ltd  
Mico Pipelines |
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<th>Recommended Manufacturer</th>
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</table>
| AM-3.4.2            | Gate Valves 25mm and 40mm | BS 5154 or AS 1628 | - Clockwise closing dezincification-resistant materials or LG2 gunmetal, PN16 or higher  
- KITZ Corporation Licence #WMKA02054  
- Pegler Hattersley Licence #1850 | KITZ Corporation (Licence #WMKA02054) | Humes Pipeline Systems  
Hynds Pipe Systems Ltd  
Pipe & Infrastructure Ltd  
Mico Pipelines |
| AM-3.4.3            | Gate Valve 50mm Rider mains and connections | NZS/BS 5163 | - Clockwise closing, resilient seating | Hawle (Licence #WMKA20123) | Humes Pipeline Systems  
Hynds Pipe Systems Ltd  
Pipe & Infrastructure Ltd  
Mico Pipelines |
| AM-3.4.4            | Butterfly Valves |               | - Specific design and approval | | |
| AM-3.5              | Fire Hydrants | |               | | |
| AM-3.5.1            | Tall/Medium Pattern Screw-Down Standard Clockwise Closing, Rated to PN16 or Higher | NZS/BS 750 AS/NZS 4158 and amendments | - O ring sealing system. Drain holes for frost protection are not permitted  
- The use of ball hydrants is not permitted | Crevet Pipelines  
Hydralve  
Gillies Metaltech | Humes Pipeline Supplies Co Ltd  
Tudor Pipeline Systems |
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<tbody>
<tr>
<td>Coated as Per Standard</td>
<td>Tapping Bands and Saddles</td>
<td>Standards Australia MP52</td>
<td></td>
<td>Tyco Flow Control Pacific</td>
<td>Mico Pipelines</td>
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<tr>
<td>AM-3.6</td>
<td>Tapping Bands and Saddles</td>
<td>AS/NZS 4793 MP52 – Spec025</td>
<td>Tapping bands should be 25mm or greater for live tapping</td>
<td>Milnes Pty Ltd</td>
<td>Mico Pipelines</td>
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<tr>
<td>AM-3.6.1</td>
<td>40mm-200mm LG2 Gunmetal DR Type, Fully Enclosed Polyethylene type, fully enclosed with stainless steel bolts</td>
<td></td>
<td>Fully enclosed for mPVC blue brute, super blue, cast iron and spiral steel (AC sizing)</td>
<td>Milnes Pty Ltd</td>
<td>Mico Pipelines</td>
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<tr>
<td>AM-3.7</td>
<td>Water meters</td>
<td>OMIL R49-1</td>
<td>Meters must be rated Q3 = 2.5m³/hour and must have a minimum R value (Q3/Q1) of 160</td>
<td>Elster / Kent Ltd</td>
<td>A.D Riley and Co. Ltd</td>
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<tr>
<td>AM-3.7.1</td>
<td>20mm Manifold Meters</td>
<td></td>
<td>Meters must be capable of transmitting a pulse output (for the purposes of data logging or remote reading)</td>
<td>Sensus</td>
<td>DEECO Services Ltd</td>
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<td>Actaris Pty Ltd</td>
<td>Chatswood Trading</td>
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<td>Tyco Flow Control Pty Ltd</td>
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<td>Aquadis</td>
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<td>AM-3.7.2</td>
<td>25mm Inline Meters</td>
<td>OMIL R49-1</td>
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<td>• Construction should be dezincification-resistant (DR) brass to NZ/AS 3688 or; • Construction of composite materials subject to approval of material specification</td>
<td>Humes Pipeline Systems</td>
<td>Hynds Pipe Systems Ltd</td>
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<td>• Meters will be rated Q3 = 6.3m³/hour and must have a minimum R value (Q3/Q1) of 160 • Meters must be capable of transmitting a pulse output (for the purposes of data logging or remote reading) • Construction should be dezincification-resistant (DR) brass to NZS/AS 3688</td>
<td>Elster / Kent Ltd</td>
<td>A.D Riley and Co. Ltd</td>
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<td>Humes Pipeline Systems</td>
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<th>AM-3.7.3</th>
<th>40mm Inline Meters</th>
<th>OMIL R49-1</th>
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<td>• Meters will be rated Q3 = 6.3m³/hour and must have a minimum R value (Q3/Q1) of 160 • Meters must be capable of transmitting a pulse output (for the purposes of data logging or remote reading) • Construction should be dezincification-resistant (DR) brass to NZS/AS 3688</td>
<td>Elster / Kent Ltd</td>
<td>A.D Riley and Co. Ltd</td>
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<td>DEECO Services Ltd</td>
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<td>Humes Pipeline Systems</td>
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| AM-3.7.4            | Inline Meters ≥50mm | OMIL R49-1 | • Specific design and approval  
                      • Design information should be provided for approval and should include the design flow rates (minimum, average, maximum), proposed meter make/model and manufacturers specifications | ABB | A.D Riley and Co. Ltd  
DEECO Services Ltd  
Chatswood Trading  
Asmu Pentair  
Humes Pipeline Systems  
Hyndos Pipe Systems Ltd  
Mico Pipelines |
| AM-3.8              | Tracer Wire | | | | |
| AM-3.8.1            | Tracer Wire | Trenchless installation rising mains | • A continuous 4.0mm² multi-strand (minimum of 4) polythene sleeved cable | Humes Pipeline Systems  
Hyndos Pipe Systems Ltd  
Mico Pipelines |
| AM-3.8.2            | Warning Tape / Detection Tape | Open cut installation | • Width – 100mm (min.)  
• Thickness – 80mu | Polymark Packaging  
Humes Pipeline Systems |
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<tr>
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</table>
| AM-3.9              | Boxes (Valve, Fire Hydrant, Meter), Packers and Valve Marker Plate  
                     Cast-Iron / Ductile-Iron | NZS/BS 750 | ▪ Hydrant cast box to NZS/BS 750  
▪ Valve cast box – to Council Standard Drawings  
▪ Valve Marker Plate | Humes Pipeline Systems  
                  Hygrade Products Ltd  
                    Hynds Pipe Systems Ltd  
                     Mico Pipelines | Humes Pipeline Systems  
                  Hygrade Products Ltd  
                    Hynds Pipe Systems Ltd  
                     Mico Pipelines |
| AM-3.10             | Concrete Products |         |                  |                          |                      |
| AM-3.10.1           | Concrete Valve / Hydrant Marker Post | To Council standard drawings | Williamson Creative Products  
                     Newstead Concrete Products | Humes Pipeline Systems  
                  Hynds Pipe Systems Ltd  
                     Mico Pipelines | Humes Pipeline Systems  
                  Hynds Pipe Systems Ltd  
                     Mico Pipelines |
| AM-3.10.2           | Fire Hydrant Concrete Surrounds | To Council standard drawings |                          |                          | Humes Pipeline Systems  
                  Hynds Pipe Systems Ltd  
                     Mico Pipelines | Humes Pipeline Systems  
                  Hynds Pipe Systems Ltd  
                     Mico Pipelines |
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<th>Product / Comment</th>
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<td>Draper Enterprises Ltd</td>
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| AM-3.13             | Backflow Prevention Devices | AS/NZ 2845.1              | • Types and classification of devices to meet Council requirements as assessed  
|                     |                           |                           | • For dedicated fire systems, use VeriFire standard | Reliance Worldwide Ltd  
|                     |                           |                           |                   | Asmuss Pentair          | DEECO Services Ltd     |
|                     |                           |                           |                   | Acuflow Industries Ltd   | Humes Pipeline Systems |
|                     |                           |                           |                   |                          | Hynds Pipe Systems Ltd |

**Notes:**
- AM-3.10.3: Valve Concrete Surrounds
- AM-3.11: Wooden Products
- AM-3.11.1: Wooden Valve Post
- AM-3.12: Toby Boxes Cast-Iron Polyethylene
- AM-3.13: Backflow Prevention Devices

**Recommended Manufacturers and Suppliers:**
- Humes Pipeline Systems
- Hynds Pipe Systems Ltd
- Mico Pipelines
- Surecast Metals
- Acuflow Industries Ltd
- Draper Enterprises Ltd
- Reliance Worldwide Ltd
- Asmuss Pentair
- DEECO Services Ltd
- Humes Pipeline Systems
- Hynds Pipe Systems Ltd
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