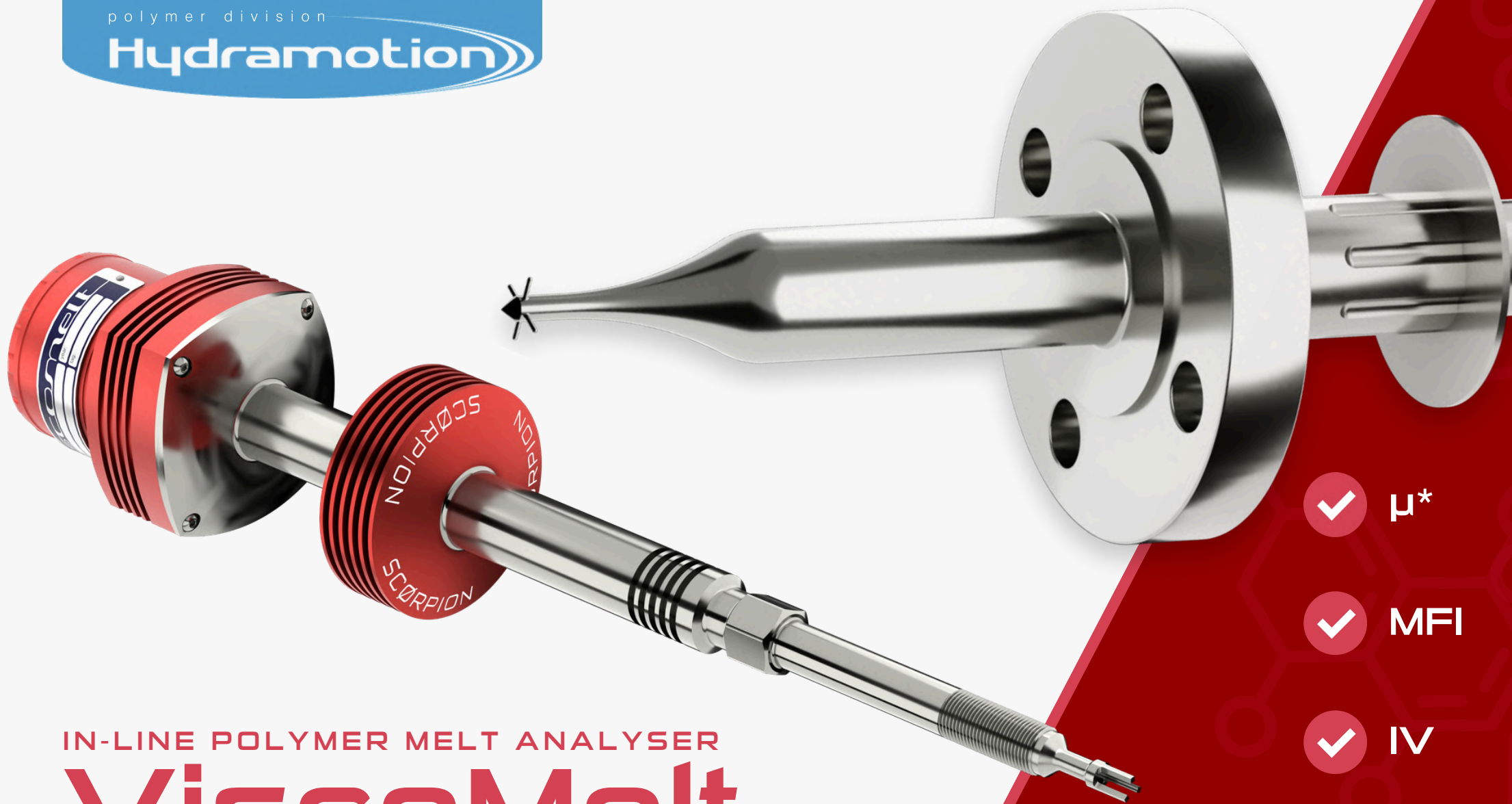


polymer division

Hydramotion



IN-LINE POLYMER MELT ANALYSER

ViscoMelt

Lab-grade polymer viscosity. Inline. Without the lab.

✓ μ^*

✓ MFI

✓ IV

POWERED BY

SCORPION™
melt flow technology

REAL TIME MELT DATA AT YOUR FINGERTIPS

One simple device does it all.

No sampling

No offline measurements

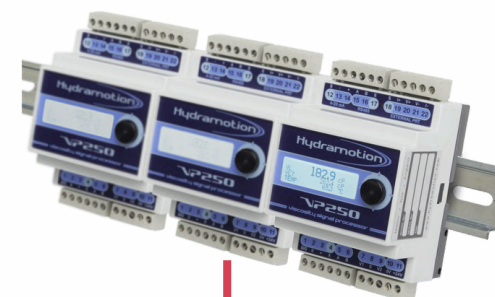
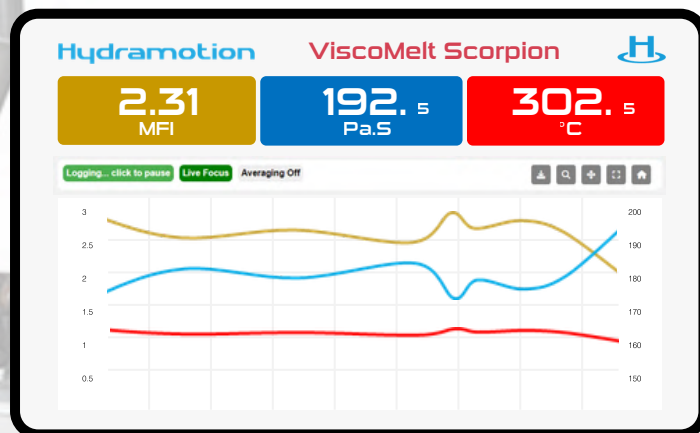
No labour costs

✓ μ^*

✓ MFI

✓ IV

HI-VIZ Display



From simple local display
to full automation.

THE CONTROL YOU NEED. **WHERE YOU NEED IT.**

ViscoMelt's robust design and flexible installation options ensure it delivers real time measurement and control exactly where it's needed most. Live melt viscosity readings from day one, with no fuss, for a lifetime.

- ✓ μ^*
- ✓ MFI
- ✓ IV



Extruder
VM5



Melt Pipe
VM7



Tank
VM9

WHY CHOOSE VISCOMELT?

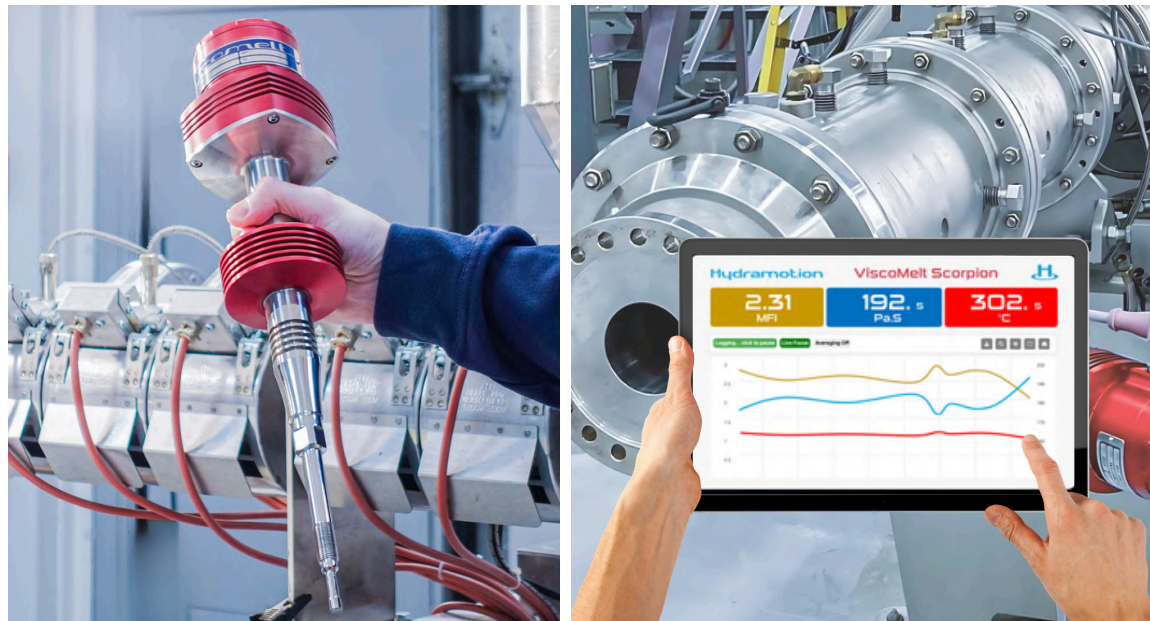
Affordable: fraction of the cost of capillary systems

No maintenance: negligible cost of ownership

Fast: real time viscosity every 5 secs - 99% faster than lab

Deploy anywhere: forget site disruption and costly installation

The all-in-one solution: viscosity, MFI, IV and temperature



i Forget about heavy, slow, expensive mechanical devices

3 daily profit drivers \$\$\$

Increase Quality

Achieve end-product consistency and quality by detecting raw material variability in real-time and proactively take action during production

Eliminate Waste

Slash defect and scrap rate by instantly detecting off-spec product. Adjust the process in real-time to bring the material back into spec

Transform Productivity

Reduce reliance on manual offline measurements. Automate your polymer measurement and control

MEET THE **VISCOMELT** FAMILY

Powered by Scorpion™ technology

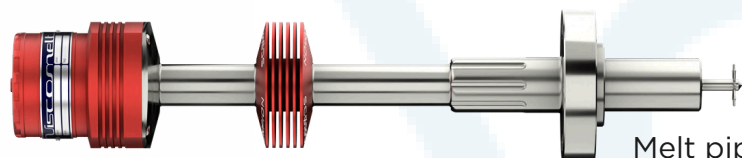
ViscoMelt is a family of highly-resilient inline viscometers which provide critical melt flow data every few seconds with exceptional repeatability. The Inconel-tipped spike design can withstand the extreme process conditions of high temperature, pressure, and viscosity. And its solid-state design means no maintenance, no on-site calibration and no costly site alterations.

VM5



Extruder

VM7



Melt pipe or tank

VM9



Extended reach melt pipe or tank

POWER.
SPEED.
PRECISION.

5 SECONDS
PER READING

10⁶ Pa.s
VISCOSITY

700 BAR
OR
10,000 PSI
PRESSURE

350 °C
OR
662 °F
TEMPERATURE

0.5 WATT
POWER
CONSUMPTION

ViscoMelt 5

EYES IN THE EXTRUDER

1.3 _{kg}
weight

M18
port

25 _{mm}
min bore

The super compact one. VM5's footprint is ideally suited to the tight spaces of the **extruder** and fits standard thread ports. Upgrade a thermometer to a melt viscometer. It's that easy.

The ViscoMelt's inconel monopole spikes sit **directly in the heart of the flow**. The beautifully compact design allows melts to flow freely over the sensor surface, with an instantaneous response upon fluid contact.



ViscoMelt 7

MELT PIPE EASY-FIT

3.3 _{kg}
weight

ANY
fitting

25 _{mm}
min bore

The most important place to measure melt viscosity is at the heart of the flow in the middle of the pipe, at full line temperature and pressure.

The VM7 does just that. All the action happens at the Scorpion tip: just place the sensor where you need it, in any size pipe or tank.



ViscoMelt 9

EXTENDED REACH

ANY
length

ANY
fitting

ANY
bore

Pipelines and tanks come in all shapes and sizes, and fluid levels can vary enormously. The VM9 can be made to almost any length to suit your existing installation. Deep reach into the fluid, extended tees, and thermal lagging for heat retention can all be easily accommodated.

The result is an instrument that is hugely fit for purpose and can be fitted to your tank or pipe straight from the box. We do the work for you to minimise site disruption, and cost.



ONE SOLUTION FOR THE WHOLE POLYMER JOURNEY

PP | HDPE | LDPE | LLDPE | PET | PS | ABS | PVC | PA6 | PA66 | EVA | TPE | PC

ViscoMelt works right across the value chain delivering melt flow data for all thermoplastics, across every stage of production, manufacture and reuse.



Production

Batch consistency. Process efficiency.
Polymerisation.



Manufacture

Product uniformity. Defect reduction.
Energy efficiency.



Recycling

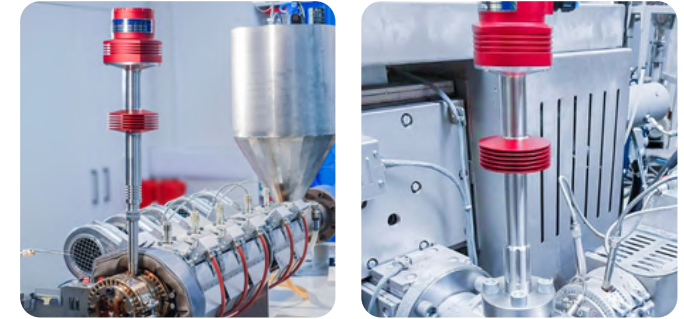
Feedstock analysis. Blend ratio.
Final material quality assurance.



VISCOMELT IN ACTION

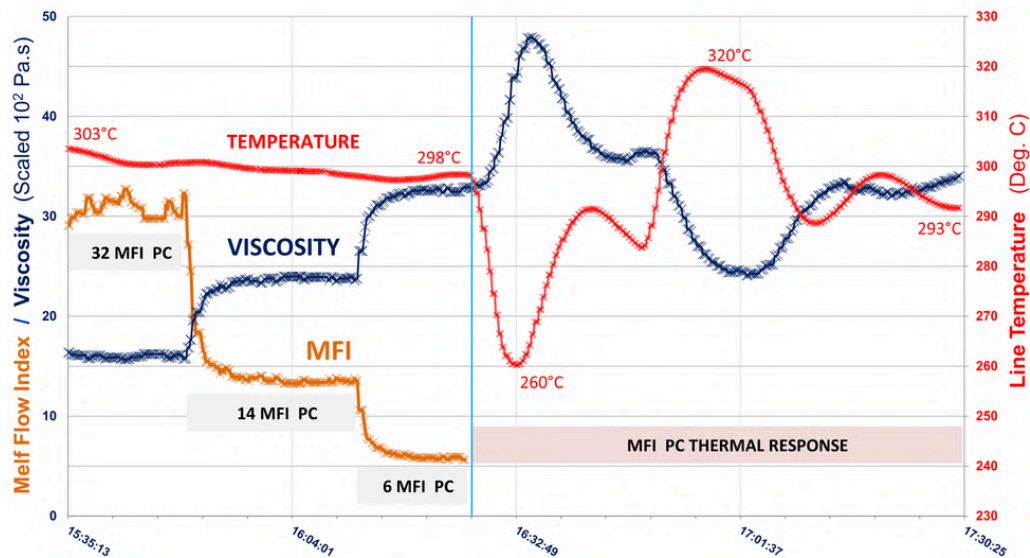
LAB PRECISION

AT LINE CONDITIONS



Polycarbonate: VM5 in extruder

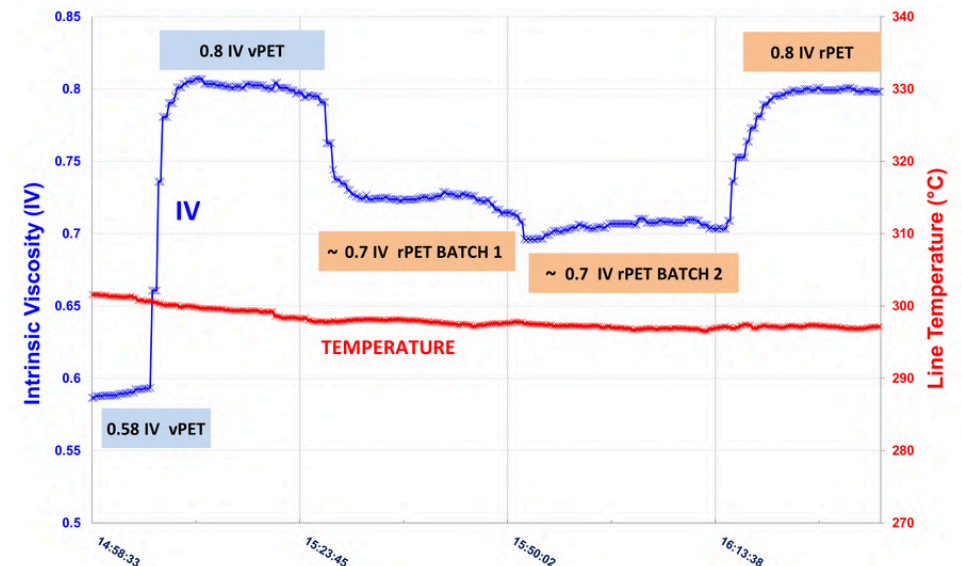
MFI



Real time ViscoMelt MFI and Viscosity for 3 grades of polycarbonate (PC) under continuous extruder flow with viscosity response under extruder temperature modulation

vPET & rPET: VM7 in melt pipe

IV



Real time ViscoMelt IV for Virgin PET (vPET) and Recycled PET (rPET) under continuous flow

MAKING WAVES

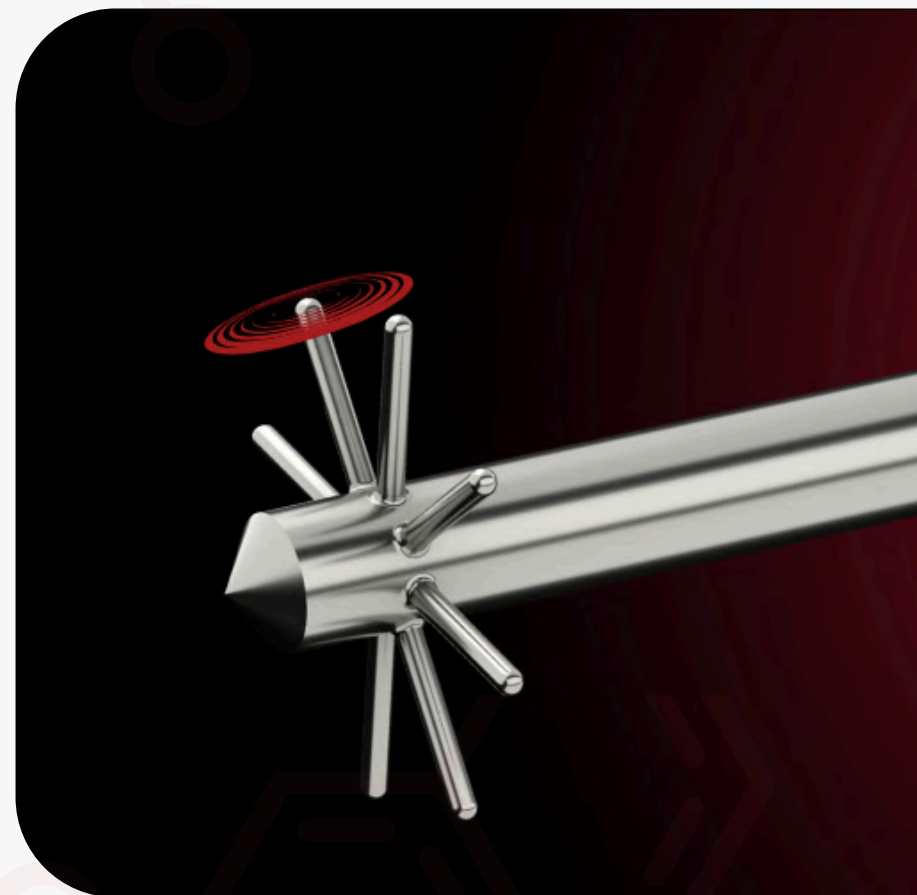
HOW SCORPION™ WORKS

The stainless steel alloy base resonator with its Scorpion tip is immersed in the flow of the polymer melt at full process operating temperature and pressure.

The Scorpion spike radiators at the tip are made to microscopically propagate radial waves into the polymer melt.

Radial propagation is strongly and predictably influenced by both polymer viscosity and elasticity which then alters the harmonic behaviour of the base resonator.

Viscosity and elasticity are simultaneously measured by ViscoMelt head electronics and related directly to molecular weight, melt flow index and intrinsic viscosity (IV).



ADVANCED MANUFACTURING

A place where modern production systems meet a culture of high engineering values. The ISO9001 accredited facilities foster a mindset based on relentless attention to detail to ensure every instrument performs as it should and is worthy of the Hydramotion name.

Our digital machining facilities are some of the most advanced in the world. State of the art welding systems means we can create a world class viscometer solution that delivers the quality, integrity and finish that meets the challenging demands of process industries.

When you purchase from Hydramotion you are buying into a proven track record of assured quality that the world has come to expect. Every product meets our exacting standards which will ensure a lifetime of reliable service and provide a highly rewarding customer experience. Our reputation is built on it.





hydramotion.com

All images and details provided should be used as a guide only and are subject to change at the manufacturer's discretion. For full information and specification please contact Hydramotion

version 1.02