

Industrial Products Brochure

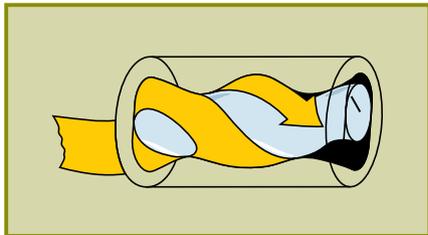


The Pumping Principle

The heart of the Mono pump is the rotor and stator. As the single helix rotor revolves eccentrically within the double helix of the stator, a continuous cavity is formed and progresses towards the discharge end of the pump. The gentle non-pulsating action of the pump maintains product integrity during pumping even with the most sensitive of liquids.

This principle offers many benefits for a wide range of applications, especially where particularly difficult substances are involved, such as:

- Solids in suspension
- High viscosities
- Shear sensitivity
- Abrasive slurries
- Solids, liquids, gas mixtures



The Mono® Pedigree

For over 70 years, Mono has been a leading provider of pumping solutions, for a variety of applications from clean water through to food, wine and beverage manufacture and in the chemical manufacturing industry.

Mono Pumps provides you with a wide array of pumping solutions to optimise your liquid processing, improve your company's efficiency and reduce costs and down time.

Our pumps are:

- Economical
- Efficient
- Reliable
- Specifically engineered
- Technologically advanced
- Long-lasting and low-maintenance
- Comprehensively supported

Industries and Applications

Food & Beverage

Brewing	Chocolate
Pet food	Preserves
Dairy products	Cooking oils
Spirits/alcohol	Meat products
Fruit pulps and juices	Sugar processing
Confectionary products	Colourings and flavours

Cosmetics & Pharmaceuticals

Hair products	Drugs
Lotions & creams	Toothpaste
Soaps and detergents	Cleansing products

Chemicals

Dyes	Fuel oils
Organics	Photographic emulsions

Paper & Ceramics

Latex	Starch
Paper coatings	Titanium dioxide
Ceramic and clay slips	Chemical dosing

Mining & Construction

Grouting	Drilling muds
De-watering	Waste sludges
Explosive slurries	Dust suppression
Mineral processing	

Water & Waste Water Treatment

Dosing	Sludges
Oil/Water separation	Potable water
Flocculants & polyelectrolytes	
Domestic/industrial effluents	

Marine

Bilge pumping	Fuel transfer
Oil rig and port services	Fish processing

Wine

Marc	Turnover
Juice transfer	Lees
Blending	Crusher transfer

Compact C Range

The Compact C range of progressing cavity pumps gives you a pump specifically designed for small spaces, whilst reliably performing to your maximum requirements.

Features

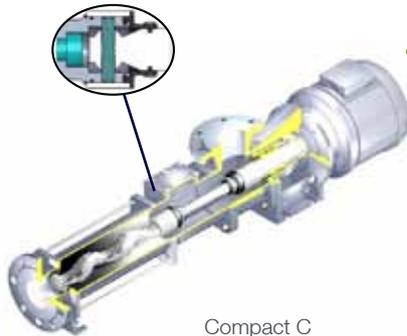
- Cast iron or stainless steel
- Capacities up to 440m³/hr
- Differential pressure up to 24 bar
- Shorter length - no need for central support foot
- Enlarged suction chamber reduces the possibility of large solids buildup
- Optional access ports

Rotor/Stator

- Optimal rotor/stator fit to offer high pumping efficiencies and maximum pump life
- Highest level of quality control applied, to ensure accurate pumping performance

Coupling Rod Drive

- The rotor/drive joint is based on the significant experience gained from thousands of pumps supplied for a wide range of applications



Compact C

Options

The Compact range of progressing cavity pumps has grown with the requirements of our customers. Due to these requirements we have both improved the pumps and added options to help with more complex applications.

Compact C pump options are:

EZstrip

- Removes the need to disconnect suction or discharge pipework
- Most efficient de-rag pump on the market, offering complete de-ragging and re-assembling in 2½ minutes
- A pre-assembled drive train is available

Square Inlet

- Supplied with conveyor/auger
- Suited to applications with various products with high viscosities
- Inspection port available



EZstrip®

Dimensions

	Model	C21B	C21D	C22A	C22B	C22D	C23A	C23B	C13D	C23K	C2XA	C2XB	C1XD	C1XK	C14A	C14B	C14D	C14K	C15A	C15B	C15D	C15K	C16A	C16B	C16D
Max Capacity	M3h	1.4	1.3	3.3	3.3	3.3	5.6	5.6	5.6	10	10.7	10.7	10.7	13	14.5	14.5	14.5	22	24	23	23.5	37	35	35	35
	L/S	0.4	0.1	0.9	0.9	0.9	1.6	1.6	1.6	2.8	3	3	3	3.6	4	4	4	6.1	6.7	6.4	6.5	10.3	9.7	9.7	9.7
Max Pressure	Bar	12	24	6	12	24	6	12	24	6	6	12	24	6	6	12	24	6	6	12	24	4	6	12	24
	Psi	174.2	348.3	87.1	174.2	348.3	87.1	174.2	348.3	87.1	87.1	174.2	348.3	87.1	87.1	174.2	348.3	87.1	87.1	174.2	348.3	58.1	87.1	174.2	348.3

	Model	C16K	C17A	C17B	C17D	C17K	C18A	C18B	C18D	C18K	C19A	C19B	C19K	C1AA	C1AB	C1AK	C1BA	C1BB	C1BK	C1CA	C1CB	C1CK	C1DA	C1DB	C1EB
Max Capacity	M3h	57	50	50	50	79	58	58	58	97	72	72	125	96	96	165	150	150	225	210	210	440	290	290	440
	L/S	15.8	13.9	13.9	13.9	21.9	16.1	16.1	16.1	26.9	20	20	34.7	26.7	26.7	45.8	41.7	41.7	62.5	58.3	58.3	122.2	80.6	80.6	122.2
Max Pressure	Bar	4	6	12	24	6	6	12	24	4	6	12	6	6	12	4	6	12	4	6	12	4	6	12	12
	Psi	58.1	87.1	174.2	348.3	87.1	87.1	174.2	348.3	58.1	87.1	174.2	87.1	87.1	174.2	58.1	87.1	174.2	58.1	87.1	174.2	58.3	87.1	174.2	174.2

Epsilon Range

Utilising our unique Flexishaft drive principle, the Epsilon is an ideal pump for arduous, demanding applications which require high reliability and very low maintenance.

- Self priming up to 8 metres of water
- Positive displacement, proportionate to speed, independent of pressure
- Handles most liquids from water to abrasive slurries, entrained gases and froth, to viscous and non-Newtonian fluids.
- Low emulsification, low shear, negligible pulsation
- Flow rates from up to 420 m³/hr (117 l/sec)
- Pressures to 72 bar
- Cast iron or stainless steel materials of construction
- Simple construction and ease of maintenance

Rotor

- Available in various materials, from the economical high alloy steel to stainless steel with hard chrome plating, to prolong the life of your rotor
- Duracoat® 3000 for extremely abrasive applications available on request

Performance

	Model	E11B	E11D	E12A	E12B	E12D	E13A	E13B	E13D	E13K	E1XA	E1XB	E1XD	E14A	E14B
Max Capacity	M3h	1.3	1.3	3.3	3.3	3.3	5.6	5.6	5.6	10	10.7	10.7	10.7	14.5	14.5
	L/S	0.4	0.4	0.9	0.9	0.9	1.6	1.6	1.6	2.8	3	3	3	4	4
Max Pressure	Bar	12	24	6	12	24	6	12	24	6	6	12	24	6	12
	Psi	174.2	348.3	87.1	174.2	348.3	87.1	174.2	348.3	87.1	87.1	174.2	348.3	87.1	174.2

	Model	E14D	E14K	E15A	E15B	E15D	E15K	E16A	E16B	E16D	E16F	E16H	E16K	E17A	E17B
Max Capacity	M3h	14.5	22	24	23	23.5	37	35	35	35	35	35	57	50	50
	L/S	4	6.1	6.7	6.4	6.5	10.3	9.7	9.7	9.7	9.7	9.7	15.8	13.9	13.9
Max Pressure	Bar	24	4	6	12	24	4	6	12	24	36	48	4	6	12
	Psi	348.3	58.1	87.1	174.2	348.3	58.1	87.1	174.2	348.3	522.5	696.7	58.1	87.1	174.2

	Model	E17D	E17K	E18A	E18B	E18D	E18F	E18H	E18L	E18K	E19A	E19B	E19K	E1AA	E1AB	E1AD	E1AF	E1AK	E1BA	E1BB	E1BD	E1BK	E1CA	E1CB	E1DA	E1EA
Max Capacity	M3h	50	79	57	57	57	57	57	57	97	72	72	125	96	96	96	96	165	150	150	150	225	210	210	290	420
	L/S	13.9	21.9	15.8	15.8	15.8	15.8	15.8	15.8	26.9	20	20	34.7	26.7	26.7	26.7	26.7	45.8	41.7	41.7	41.7	62.5	58.3	58.3	80.6	116.7
Max Pressure	Bar	24	4	6	12	24	36	48	72	4	6	12	4	6	12	24	36	4	6	12	24	4	6	12	6	6
	Psi	348.3	58.1	87.1	174.2	348.3	522.5	696.7	1045	58.1	87.1	174.2	58.1	87.1	174.2	348.3	522.5	58.1	87.1	174.2	348.3	58.1	87.1	174.2	87.1	87.1

Mono Flexishaft®

- All Epsilon Range models supplied with Mono Flexishaft
- Manufactured from toughened stainless steel and covered with abrasion and corrosion-resistant coating
- The Flexishaft completely eliminates the need for high maintenance conventional universal and gear joints
- 10 Year Warranty

Drive shaft / Flexishaft Joint

- No wearing components with no requirement for lubrication
- A retaining bolt through the drive shaft and tapered joint provide a positive drive and allows for removal of the bearing housing assembly without the need for pump disassembly or pipework disconnection

Suction / Discharge Connections

- Manufactured from cast iron, mild steel or stainless steel, flanged connections as standard to BS4504, ANSI flanges available on request
- The suction port can be rotated at 90° intervals to fit a variety of installation requirements



Low Flow (LF) Range

The Mono LF range is ideal for applications where accurate, low flow pumps are needed for intermittent or continuous dosing. The LF pump incorporates the Flexishaft drive concept and is available in synthetic or stainless steel versions. The gentle pumping action makes it ideal for pumping delicate, shear-sensitive products.



Rotor

- The rotor form results in excellent hydraulic performance, reduced break-out torque and excellent slow speed performance

Mono Flexishaft®

- The Flexishaft is manufactured from toughened materials and is covered by a chemically-inert, abrasion-resistant coating
- The Flexishaft completely eliminates the need for high-maintenance conventional universal and gear joints

Drive shaft / Flexishaft Joint

- No wearing components with no requirement for lubrication
- Provides a high degree of reliability with simplified maintenance
- Covered by a 5-year warranty

Shaft Sealing

- Type 502 single mechanical seal with carbon/carbon face as standard to suit most fluids
- Optional materials on request

Tie Bar

- Stainless steel tie rods and nuts for added corrosion protection

Motor/Gearbox Options

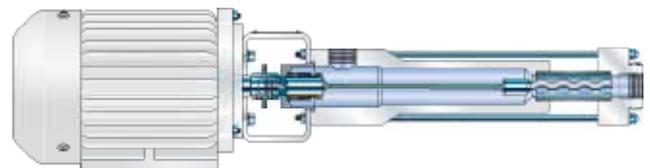
- Options available include close coupled, AC/DC motor, fixed speed gearbox, variable speed and frequency inverter
- Other options available on request

Main Drive Shaft

- Solid drive shaft eliminates potential product build-up associated with hollow shaft construction
- Utilises smaller diameter mechanical seal

Suction Chamber / End Cover

- Standard housing is polyethylene with the option of 316 stainless steel
- End cover manufactured from either polyethylene or 316 stainless steel with 3/4" BSP thread port connection



Performance

	Model	LF052	LF102	LF104	LF202	LF204	LF502	LF504
Max	M3h	0.06	0.1	0.1	0.2	0.2	0.54	0.54
Capacity	L/S	0.02	0.03	0.03	0.06	0.06	0.15	0.15
Max	Bar	12	12	24	12	24	12	24
Pressure	Psi	174	174	348	174	348	174	348

CP Range

Mono's versatile workhorse. Used for a vast variety of low pressure applications from water to mustard, wine to effluent. Housing manufactured in corrosion resistant non-metallic material, with SS internals as standard.



Features & Benefits

- Single mechanical seal
- Self priming up to 6m
- Speedmaster version available to control the flow
- Tough engineered grade acetal co-polymer plastic housing
- Stainless steel internal rotating parts
- Close-coupled drive arrangement
- Simple and easy to maintain
- Integral mounting bracket
- Tropical-proof motor as standard for internal or external installation
- BSP threaded port connections

Stator Options

- Natural, nitrile (standard), hypalon, high nitrile, fluoroelastomer (CP11 & CP25 only)

Applications

- Milk
- Honey
- Food colour
- Fruit juice
- Wine
- Detergents
- Mustard
- Domestic water supply
- Septic effluent
- Brine injection for meat curing
- Oily water
- Molasses transfer



Performance

	Model	CP11	CP25	CP800	CP1600
Max	M3h	0.7	1.6	4	7.5
Capacity	L/S	0.2	0.4	1.1	2.1
Max	Bar	2.8	2.8	2.8	2.8
Pressure	Psi	40.6	40.6	40.6	40.6

Widethroat W Range

The widethroat range has been developed to handle materials with viscosities up to 1,000,000cP. Optional integral bridge-breaker or large-auger models available, allowing dry solids approaching 40% to be handled. It is available as a monobloc or bareshaft pump.

Rotor

- Available in various materials from high alloy steel through to stainless steel with hard chrome plating for prolonged life

Drive Train

- The rotor/drive train connection utilises a unique pin joint connection
- The design of this pump reduces pin travel, resulting in significantly reduced wear rates
- Oil filled and sealed by a rubber boot providing long-life connection
- Large auger design incorporates a replaceable joint for easy maintenance

Shaft Sealing

- Options include packed gland with lantern ring and flush, single or double cartridge mechanical seals, optional flush
- Main shaft seal area can be ceramic coated for further abrasion resistance

Performance

	Model	W034	W041	W042	W044	W051	W052	W054	W061	W062	W064	W071	W072	W074
Capacity	Max M3h	1.2	5.1	5.1	5.1	10.2	10.2	10.2	17.5	17.5	17.5	28.5	28.5	28.5
	L/S	0.3	1.4	1.4	1.4	2.8	2.8	2.8	4.9	4.9	4.9	7.9	7.9	7.9
Pressure	Max Bar	24	6	12	24	6	12	24	6	12	24	6	12	24
	Psi	348.3	87.1	174.2	348.3	87.1	174.2	348.3	87.1	174.2	348.3	87.1	174.2	348.3

	Model	W081	W082	W084	W088	W091	W092	W101	W102	W104	W121	W122	W124	W151	W161
Capacity	Max M3h	34	34	34	29	40	40	49	49	49	86	86	86	155	215
	L/S	9.4	9.4	9.4	8.1	11.1	11.1	13.6	13.6	13.6	23.9	23.9	23.9	43.1	59.7
Pressure	Max Bar	6	12	24	48	6	12	6	12	24	6	12	24	6	6
	Psi	87.1	174.2	348.3	696.7	87.1	174.2	87.1	174.2	348.3	87.1	174.2	348.3	87.1	87.1

Hopper/Auger

- Hopper available in a range of sizes. Optional extended sizes on request
- Standard auger for dry solids up to 15%
- Optional large auger or bridge breaker for dry solids between 15% and 40%

Main Drive Shaft

- Solid drive shaft eliminates potential product build-up associated with hollow shaft construction
- Allows the use of a smaller diameter mechanical seal

Taper Roller Bearings

- Grease filled taper roller bearings
- Reacts to both radial and axial loads for suction on gland operation, the bearings are positively located for simplified assembly
- Spring loaded lip seals prevent ingress of dirt and moisture

Discharge Connections

- Manufactured from cast iron, mild steel or stainless steel
- Flanged connections are as standard to BS4504. ANSI flanges available on request



Luna Range

Luna is a range of light stainless steel rotary lobe pumps designed to prevent product contamination. They offer quick and easy cleaning in place.

Typical applications for the Luna pump range include concentrates and purees, fillings and liquids, homogenised meat, starch, syrups and dairy products.

As the rotors rotate in an opposite direction, the parts do not contact with each other, so there is no wear to contaminate the product. The design is also very gentle on the substance being pumped.

Luna pumps can run dry for short periods of time, so are ideal for applications when this is necessary.

Many food-approved and hygienic accessories and options are available, plus accessories designed to keep your substances at a constant temperature.

Features & Benefits

- 3A approved versions available
- RJT port fittings mounted, additional RJT fittings available on request
- Sturdy construction from 316 stainless steel
- Monobloc or bareshaft versions available
- Can run dry for short periods of time
- Suitable for SIP & CIP cleaning



Performance

	Model	LB100	LB105	LB110	LB115	LB215	LB220	LB325	LB330	LB430	LB440	LB470	LB490	LB550	LB660	LB680
Max Capacity	M3h	2.52	4.2	7.2	10.5	13.08	19.38	23.76	30.24	41.76	55.8	72	99	120	210	315
	L/S	0.7	1.2	2	2.9	3.6	5.4	6.6	8.4	11.6	15.5	20	27.5	33.3	58.3	87.5
Max Pressure	Bar	10	18	20	15	20	15	20	15	20	15	20	15	7	7	5
	Psi	145	261	290	218	290	218	290	218	290	218	290	218	102	102	73

Helios Range

The Helios range is designed specifically for hygienic applications, including shear, sensitive or delicate products, with solids in suspension.

The polished stainless steel one-piece suction chamber is easily dismantled and cleaned and has no place where product could collect.

While very robust, the Helios pump has a gentle pumping action that minimises shear and crush damage to the pumped product, while maintaining a steady flow of viscous substances.



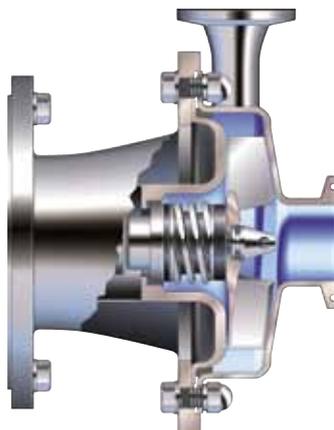
Features & Benefits

- Hygienically designed one piece polished suction
- RJT port fitted as standard
- Available with BSP bypass ports
- Polished stainless steel on all metal parts in contact with product
- Reliable Mono gentle pumping action
- Various seal types available

Performance

	Model	H1AA	H1AB	H1BA	H1BB	H1CA	H1CB	H1DD	H1EK	H1FA	H1GA	H1GB	H1GD	H1HK	H1JA	H1JB	H1JD	H1KA	H1LK	H1MA	H1MB	H1NA	H1PK	H1RA	H1RB	H1SA	H1SB	H1TK
Max Capacity	M3h	1	1.1	2.6	2.6	8.5	8.5	4.5	14	18	20	14.5	9	18.5	27	22	17.5	21	50	38	37	35	79	45	45	68	64	74
	L/S	0.3	0.3	0.7	0.7	2.4	2.4	1.3	3.9	5	5.6	4	2.5	5.1	7.5	6.1	4.9	5.8	13.9	10.6	10.3	9.7	21.9	12.5	12.5	18.9	17.8	20.6
Max Pressure	Bar	6	12	6	12	6	12	24	6	4	6	12	16	6	6	12	24	6	6	6	12	4	6	6	12	6	12	6
	Psi	87.1	174.2	87.1	174.2	87.1	174.2	348.3	87.1	58.1	87.1	174.2	232.2	87.1	87.1	174.2	348.3	87.1	87.1	87.1	174.2	58.1	87.1	87.1	174.2	87.1	174.2	87.1

Complimentary Products



Stainless Steel Centrifugal Pumps

An extensive range. The result of over 40 years' experience in the manufacturing of stainless steel pumps for the food, wine and pharmaceutical processing industries.

Designed according to the strictest cleanability standards, the construction complies with the 3A standard and more important, the Packo FP Range was the first centrifugal pump to obtain the EHEDG certification.

The FP Range includes a self priming centrifugal pump which is mainly used as a CIP return pump. Recently the range was extended to include the FP3 Series, flows now go up to 300m³/hr and pressure up to 12 bar (45kW).

The range also includes solids handling pumps for difficult applications that require passing of small solid particles within the process fluid.

Aftermarket

We are committed to standing by our products for the life of the product.

There are hundreds of Mono pumps still operating reliably after many decades. In most cases the spare parts are still easily available direct from our national network of warehouses.

With a focused aftermarket and service team, we are committed to maximising the life and efficiency of your equipment.

Genuine Mono spares

Mono's pumps will last longer, perform better and need servicing less often when fitted with genuine Mono-manufactured spares. The reason is obvious - over 70 years of researching the best materials and processes for a top quality product. As new technology becomes available we are constantly refining our processes to ensure our manufacturing processes are as efficient as possible. Mono spare parts are simply the best for your pump - and for your pocket - over its lifetime.



Mono Universal Parts



Mono Universal Parts is a fast-growing sector of Mono's business. All parts manufactured for other brands, including:

- Seepex®
- Alweiler®
- Orbit®
- Netzsch®
- PCM®
- CEMO®

plus many others.

With an increasing focus on operational and maintenance cost control, we understand that the price and availability of spare parts is high on the agenda when evaluating plant savings and efficiencies.

Using our global manufacturing facilities and leveraging our engineering know-how, we are able to produce Mono universal parts at highly competitive prices. Typically we can offer customers a saving of up to 40%.

Our Universal Parts are as good as those made by the OEM - and in many cases even better. All the experience and manufacturing capability of Nov Mono worldwide goes into making them - expertise that in many cases surpasses that of the original pump manufacturer.

For added peace of mind, all our universal parts are thoroughly tested on original pumps.

Purchasers of Mono universal parts also receive the full Mono aftermarket service, making us the best place for the best part at the best price.

A commitment to quality

All pumps are specifically selected by a committed and knowledgeable team who are ready to react to your every need. Mono Pumps has a global sales network, focused on delivering the best solutions for your process.

- Pre-sales assistance
- System and process optimisation
- Installation
- Trouble-shooting and technical support
- Aftermarket support and service

Quality Assurance

We are in a unique position to closely control the quality and integrity of our products, as we manufacture all the key components of a PC pump in-house. Mono was the first progressing cavity pump manufacturer to be certified to ISO 9001. Currently Mono is certified as meeting the latest AS/NZS ISO 9001:2008 QMS requirements, and approved by Lloyd's Register Quality Assurance Ltd (LRQA). This certification covers approval for all Mono branches across Australia.

Furthermore, Mono has also achieved certification in the requirements of AS/NZS 4801 & 18001:2007 Occupational Health & Safety Management systems and approved by Lloyd's Register Quality Assurance Ltd (LRQA).

Parts Warranty

Mono uses only genuine parts which come with a 12 month warranty.



With Mono universal parts you will receive the same warranty as provided by the original equipment manufacturer.

Servicing Your Mono products

Mono's dedicated service centres are accessible no matter where you are located in Australasia.

Service Exchange

With Mono's Service Exchange, you can exchange your existing pump for an identical refurbished unit. This extremely cost-effective option will eliminate your downtime and ensure you can continue operation without any fuss.

Service Guarantee

Our service centres repair all makes and models of pumping equipment.

Or if you prefer, Mono can offer you a periodic maintenance contract, ensuring our technicians maintain and service your equipment.



Europe

Mono Pumps Ltd, Martin Street, Audenshaw
Manchester, M34 5JA, England
T. +44 161 339 9000
E. info-mono@nov.com

D.M.I EST, 56, rue du Pont
88300 Rebeuville, France
T. +33 3 29 94 26 88
E. dmi-est@dmi-est.fr

Americas

Monoflo Inc., 10529 Fisher Road
Houston, Texas 77041, USA
T. +1 713 980 8400
E. monoflo@nov.com

Monoflo S.A., Ing Huergo 2239
(1842) Monte Grande
Pcia. de Buenos Aires, Argentina
T. +54 11 4290 9940/50
E. info.monoflo@nov.com.ar

Monoflo Canada, 6010 – 53rd Ave
Alberta, Lloydminster
T9V2T2, Canada
T: + 1 780 875 5584
E: info.monoflo@nov.com

Asia

Mono Pumps Ltd, Building 5,
Madong Industrial Park, 1250 Sicheng Rd
Malu Town, Jiading District, Shanghai 201801
T. +86 21 3990 4588
E. monoshanghai@nov.com

Australasia

Mono Pumps (Australia) Pty Ltd
75 Frankston Gardens Drive
Carrum Downs, Victoria 3201, Australia
T. 1800 333 138
E. ozsales@nov.com

Mono Pumps (New Zealand) Ltd
35-41 Fremlin Place, Avondale
Auckland, 1026, New Zealand
T. +64 9 829 0333
E. info@mono-pumps.co.nz

Melbourne	T.	03 9773 7777	F.	03 9773 7400
Sydney	T.	02 8536 0900	F.	02 9542 3649
Brisbane	T.	07 3350 4582	F.	07 3350 3750
Adelaide	T.	08 8447 8333	F.	08 8447 8373
Perth	T.	08 9303 0444	F.	08 9303 0400
Darwin	T.	08 8931 3300	F.	08 8931 3200
Kalgoorlie	T.	08 9022 4880	F.	08 9022 3660

www.monopumps.com.au



© Mono Pumps Limited May 2011 Literature reference: ART19-5

Published information other than that marked CERTIFIED does not extend any warranty or representation, expressed or implied, regarding these products. Any such warranties or other terms and conditions of sales and products shall be in accordance with Mono Pumps Limited standard terms and conditions of sale, available on request.

Mono® is a registered trademark of Mono Pumps Ltd.

Registered in England No 300721



One Company, Unlimited Solutions