

NEW ZEALAND NEWS FOOD technology



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GREASE FREE

PACFLANGE TARGETS GREASE IN FOOD PROCESSING

GREEN MANUFACTURING

HIGH-PROFILE COMPANIES AND THEIR FUTURE FOOD FOCUS

ROBOTICS & AUTOMATION | FACTORY | PROCESSING | INGREDIENTS | PACKAGING

THE WORLD'S FIRST WATER LUBRICATED FOOD GRADE CONVEYOR BELT BEARING

Problems with greasing bearings? Failed greased bearings in wet environments? PacFlange can help.

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www.henleygroup.co.nz

HENLEYS™ PACFLANGE

Food Grade Corrosion-Free Grease-Free





GREASE FREE...

PACFLANGE ELIMINATES GREASE IN THE FOOD PROCESSING INDUSTRY

Developed for the food processing and production industry by Henley Group (NZ), PacFlange is a complete, off-the-shelf-product, designed to replace the conventional greased rolling element bearing with the aim of eliminating grease away from the production line and providing a robust, zero contamination, and maintenance free solution. "Over the years, speaking with countless maintenance engineers in New Zealand, and around the world, one common problem kept coming up... issues greasing

bearings OR keeping water away from greased bearings," says Jacob Power, general manager. "Problems with grease are particularly challenging in wet environments and around process equipment that is subjected to daily high pressure chemical CIP wash downs. PacFlange has provided solutions into many different industries, but the stand outs would be the meat industry in abattoirs [beef, lamb, pork, poultry processing], aquaculture, fruit and vegetables, dairy, and even a potato chip factory." PacFlange consists of a food

grade approved housing, a marine grade (high corrosion resistance) stainless steel sleeve which runs on an engineered food grade thermoplastic that is self-lubricating with low friction and wear properties – specifically designed for food and water handling environments.

Pacflange units are generally specified in low-speed applications, oscillating or full rotation, operating up to around 60rpm shaft speed. Higher rotational speeds are possible within the boundaries of PacFlange stated pressure-velocity (PV) limitations. The units are perfect for conveyors in the food processing line, especially when water or moisture is present.

Benefits include:

- 100% grease free – zero costs, zero contamination risk. Not only is the processing plant saving on expensive food grade grease, they also completely eliminate the risk of

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PACFLANGE UNITS ARE GENERALLY SPECIFIED IN LOW-SPEED APPLICATIONS, OSCILLATING OR FULL ROTATION, OPERATING UP TO AROUND 60RPM SHAFT SPEED. HIGHER ROTATIONAL SPEEDS ARE POSSIBLE WITHIN THE BOUNDARIES OF PACFLANGE STATED PRESSURE-VELOCITY (PV) LIMITATIONS. THE UNITS ARE PERFECT FOR CONVEYORS IN THE FOOD PROCESSING LINE.



2.



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1. Newly installed PacFlange bearing.
2. Multiple maintenance free bearing install.
3. PacFlange bearing install on factory conveyor.
4. Greased bearing ready to be replaced.

grease-product contamination. Although processing plants are required to use food-grade approved grease, customers do not want a spoon full of grease on their dinner plate!

- Maintenance free – as there is no need for grease, staff do not need to attend to each unit to apply grease periodically, freeing up their time for other more important maintenance tasks. Great for those hard-to-reach bearings or where access is dangerous. Every processing plant is different, some operate a weekly greasing schedule. Reducing the workload is especially important in this post-Covid era where staff are in short demand worldwide.
- No catastrophic failure – When specified correctly, the PacFlange unit will wear out gradually, avoiding unexpected failure. As there is no catastrophic failure the maintenance team are able to plan well in advance when a unit is due for replacement, therefore reducing down time from unexpected unit failure – it can be extremely costly if production is halted due to a mechanical failure, especially in large processing plants.
- Longer life – reduced replacement of units and higher mean time between failure (MTBF). PacFlange has units which are into their third

year of service in applications when it was standard to replace each greased rolling element bearing after every season.

Introduction of water lubrication

PacFlange has introduced a number of unique design improvements that are geared towards increasing the prior PV limitations of dry operation. “With the presence of a continuous cool water supply, we are able to increase the PV load ratings of PacFlange [dry operation] by a factor of three. This is a huge advancement for PacFlange, allowing the product to be specified in higher loaded applications.”

PacFlange around the globe

Although PacFlange has been developed and tested in New Zealand it has also seen success around the world, especially in countries with high food sanitary standards such as Australia, Europe, North America and South Africa.

Success in Western Australia – Statewide Bearings

Fletcher International is a renowned family-owned Australian lamb exporter. The company has two processing plants, one in Dubbo,

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"PACFLANGE HAS BEEN A GREAT SOLUTION FOR FLETCHERS, ESPECIALLY AS THE UNITS ARE ABLE TO STAND UP TO THEIR DAILY HIGH-PRESSURE CIP WASHDOWNS."
- WAYNE ALLEN, BRANCH MANAGER FOR STATEWIDE BEARINGS ALBANY.

New South Wales, and another near Albany in Western Australia.

Both of these facilities use high-end machinery to ensure maximum productivity and conveyors make up an important part of their operation.

Fletchers installed the first set of PacFlange units in October 2019 a small conveyor in their boning room as a trial. After six-months of operation without issue they decided to make a plan to implement more units throughout their plant.

The second order for PacFlange units was issued in March 2020, followed by an order in June 2020 as they worked through converting existing greased rolling element bearings over to Pacflange.

The third order came up in April 2021 and after the most recent purchase in August 2022, Fletcher International have basically converted the whole production facility in Albany (WA) over to

PacFlange conveyor units.

Wayne Allen, branch manager for Statewide Bearings Albany, led the charge getting PacFlange into Fletchers, and assisted the maintenance team to become familiar with the product.

"PacFlange has been a great solution for Fletchers, especially as the units are able to stand up to their daily high-pressure CIP washdowns."

Statewide Bearings is the national PacFlange distributor for all of Australia and is able to service all corners of the country through their 30-plus branches.

Success in Canada through Tassitech Inc

Tassitech has recently taken over the distribution rights for all Canadian States. Based in French-speaking Quebec, Nicolas Morasse from the company has found all kinds of unique applications for PacFlange, especially where

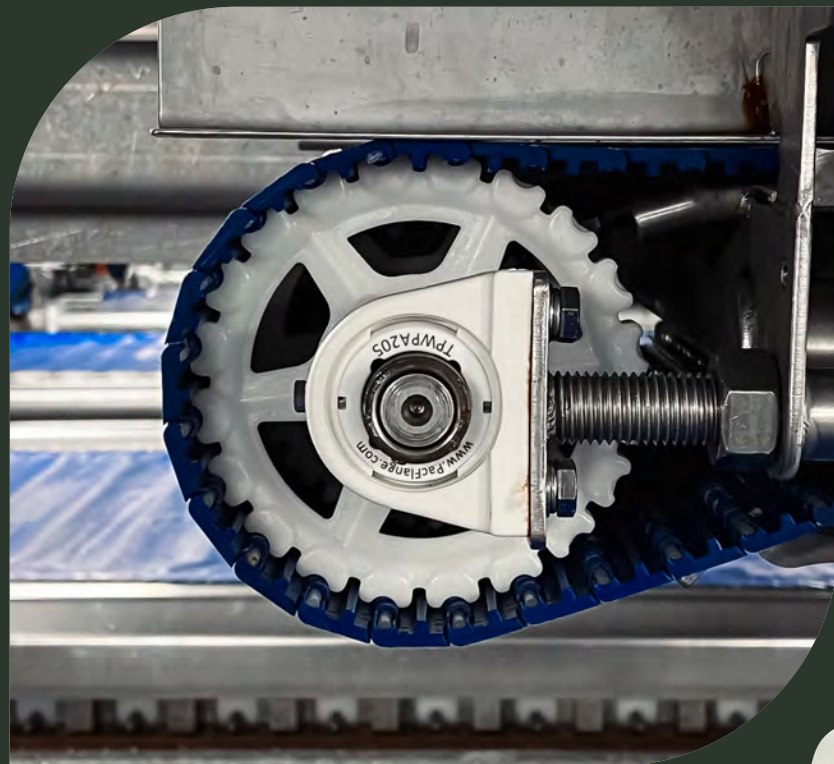
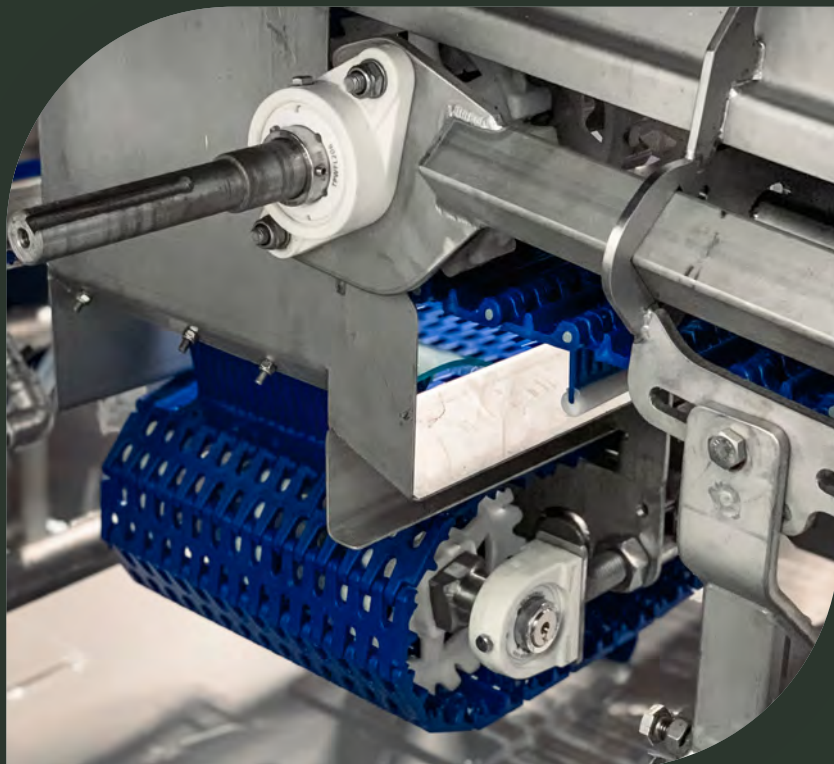
maintenance and reliability have been an issue with conventional greased bearings.

One application for Tassitech was in a cheese processing facility, where Morasse has supplied numerous PacFlange units which have now been in operation for 13 months.

"The customer has been very impressed with PacFlange after 13 months of operation. No maintenance whatsoever during this period and best of all its removing grease from our high-sanitary production area. In some of the locations we are already exceeding the bearing lifetime compared to standard greased bearings," he says.

PacFlange success in Scandinavia and the UK with Duwel Group

Duwel Group has been a PacFlange distributor for a number of years now, representing the product through the company's



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sales offices in Norway, Sweden, Finland and the United Kingdom.

Roger Duwel, managing director for Duwel Group, says: "PacFlange has been a great addition to our portfolio of products and services that we offer. As an organisation, Duwel Group provides high quality environmental products only from suppliers that we believe in and we strive to ensure our customers are getting the best solution, PacFlange Units tie in perfectly with this."

The company has supplied PacFlange into a number of different applications, helping their customers improve reliability and food safety, especially in wet environments. A standout industry for Duwel has been commercial fishing in the North Sea supplying to factory trawlers who process their catch out at sea. Tommy Holmgren, sales director, led the charge into this industry saying, "After becoming familiar with PacFlange,

we already had contacts in the fishing industry through other business and it made perfect sense to present PacFlange to these customers".

One particular company who have adopted PacFlange units into its processing areas, is Lerøy Havfisk AS, based out of Norway. They are described as the largest trawler company in the country, operating 10 trawlers and primarily fishes cod, haddock, saithe and deep water prawns.

Fishing vessel 'Kongsfjord' is one of the trawlers, featuring an advanced fish factory, two separate cargo holds for refrigerated and frozen fish, and a freezing capacity of 80 tonnes per 24 hours. The catch handling is improved with a live fish tank, keeping the fish in healthy condition until processing and storing of catch in low temperatures to maintain the premium quality of the fish. Head and guts will be stored in ensilage tanks and

"OUR VESSELS ARE OPERATING IN A VERY UNFORGIVING AREA UP IN THE NORTH SEA, FOR UP TO THREE MONTHS AT A TIME. IT IS CRITICAL THAT OUR CONVEYORS ARE RELIABLE AS WE CAN'T AFFORD TO BE MAKING REPAIRS DURING A VOYAGE OR HALTING OUR PRODUCTION. WITH OUR BEARINGS OPERATING IN A VERY WET AND CORROSIVE ENVIRONMENT, PACFLANGE HAS BEEN AN OUTSTANDING SOLUTION FOR US."

delivered ashore, ensuring that all biomass of the catch is utilised. Stein Oksnes is the technical director at Havfisk and was the one who decided to go with PacFlange. "Our vessels are operating in a very unforgiving area up in the North Sea, for up to three months at a time. It is critical that our conveyors

are reliable as we can't afford to be making repairs during a voyage or halting our production. With our bearings operating in a very wet and corrosive environment, PacFlange has been an outstanding solution for us, allowing our conveyors to operate consistently, maintenance free, and without failure".

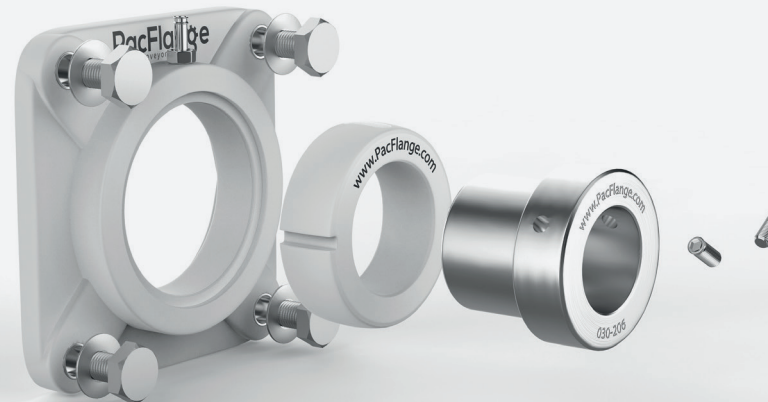
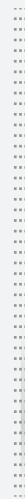
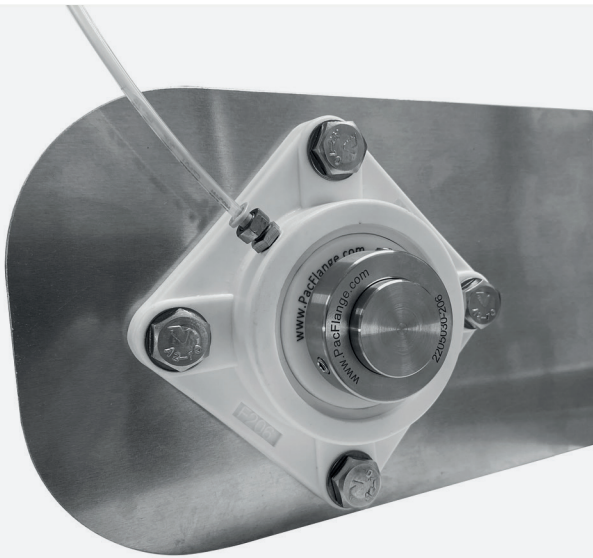


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PacFlange Excels in Water and Wet Environments

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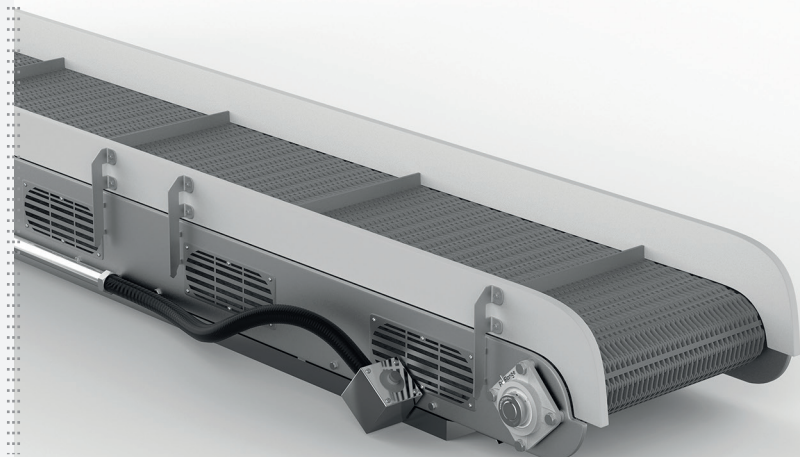
High Grade Stainless Steel Components

New PacFlange Water Lubricated Version

- Significant increase in load carrying capacity
- Improved Bush design
- Improved Stainless Sleeve design
- Water delivery locking bolt
- Environmentally Friendly Packaging

PacFlange Features

- Longer Life in Wet Environments
- Maintenance-Free
- Grease-Free
- Dry Operation or Water Lubricated
- High Grade 2205 Stainless Sleeve
- Gradual Wear Enabling Planned Replacement
- Thordon Engineered Thermoplastic Bush



DYNAMIC LOAD RATINGS

The below table shows how much load can be directly applied on one bearing at various shaft speeds. *If one shaft has two bearings, the applied load should be twice the specified value for a particular RPM.* If the shaft size is unknown, use the housing size to find the load at the specific RPM.

Shaft dia. (d)		HOUSING SIZE	10 RPM		20 RPM		30 RPM		40 RPM		50 RPM		60 RPM	
mm	inch		DRY (Kg)	WATER (Kg)	DRY (Kg)	WATER (Kg)	DRY (Kg)	WATER (Kg)	DRY (Kg)	WATER (Kg)	DRY (Kg)	WATER (Kg)	DRY (Kg)	WATER (Kg)
20	3/4	204	218	655	113	338	74	223	55	165	44	132	37	112
25	1	205	246	739	123	370	84	251	62	186	50	149	40	119
30	1 1/8 1 1/4	206	267	802	130	391	87	262	65	195	52	157	43	130
35	1 1/4 1 3/8	207	276	828	138	414	92	276	69	206	55	165	46	137
40	1 1/2	208	298	894	152	455	100	300	75	224	60	180	50	150
45	1 3/4	209	318	954	156	469	105	314	79	236	63	188	52	157
50	2	210	319	957	157	470	105	315	79	236	63	188	52	157
55	2	211	355	1066	178	533	118	355	88	264	70	211	59	177
60	2 1/4	212	370	1109	182	546	122	365	92	276	73	219	61	183
65	2 1/2	213	380	1139	190	569	127	380	95	284	76	228	63	190
70	2 1/2	214	389	1168	197	591	130	391	98	294	79	236	65	196
75	3	215	408	1223	204	611	135	404	101	304	81	243	67	201

*Applications with shaft speeds over 60 RPM need to be reviewed by PacFlange Engineering, please contact your local dealer or email us at sales@pacflange.com