

Pack-RYT

Patent #: 6,834,862



The Pack-RYT system is a unique stuffing box sealing arrangement that for the first time incorporates a bearing and flush channel system together. The advantages of this system are numerous and are listed below for easy reference:

Machined – in close – clearance bearing stabilizes shaft.

- Cavitation caused deflection is minimized.
- Minimal clearance sharply throttles solids, which allows the low-flush to keep them out of the shaft area.
- Flush – use reduction averages 2/3.

Fewer sealing rings required.

- As few as two rings of packing required.
- Results in minimal friction to sleeve / shaft.
- Little, or in some cases, no leakage from gland.
- Eliminates need to constantly adjust packing.
- Marlo high performance, ultra pure heat conductive sealing rings can virtually eliminate sleeve/shaft wear.

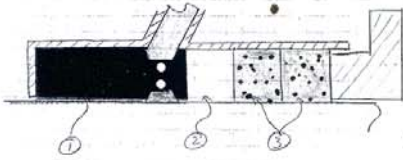
High performance thermoplastic bearing block.

- The bearing material has a very high compressive strength.
- Is impervious to most chemicals.
- Virtually has no dimensional growth up to 260 Deg C.
- Split, pinned, drilled and tapped for easy installation and removal.
- Available as split bearing without lantern ring groove.

Automatically positions flush channel correctly.

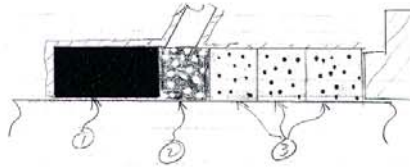
- Lantern ring cannot move past flush inlet.
- Flush flow remains constant.

REDUCE FLUSH UP TO 90%!!



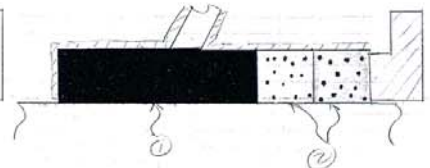
1. Pack-Ryt™ bearing/lantern ring minimizes run-out and deflection while throttling flush flow.
2. Marlo patented 50/52 blocks flush pressure on one side and heat-conductive sealant on the other.
3. Marlo style 396 ultra-pure reinforced exfoliant seals off remaining leakage with minimal friction.

ELIMINATE FLUSH!!



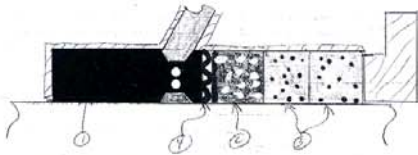
1. Pack-Ryt™ bearing minimizes run-out and deflection.
2. Marlo patented 472 blocks heat conductive sealant.
3. Marlo style 396 ultra-pure reinforced exfoliant seals with minimum friction, maximum heat conductivity.

ELIMINATE FLUSH, EXTENDED CANTILEVER



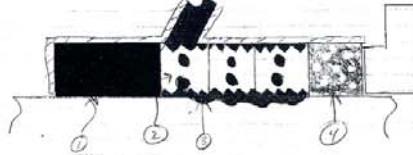
1. Pack-Ryt™ bearing minimizes run-out and deflection.
2. Marlo style 396 ultra-pure reinforced exfoliant seals with minimum friction, maximum heat conductivity.

REDUCE FLUSH, INTERNAL SELF-ADJUSTING



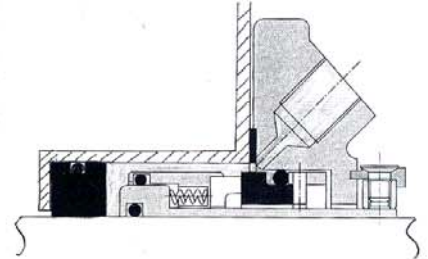
1. Pack-Ryt™ bearing/lantern ring minimizes run-out and deflection while throttling flush flow.
2. Marlo patented 472 blocks flush pressure on one side and compresses the heat-conductive sealant on the other.
3. Marlo style 396 ultra-pure reinforced exfoliant seals off remaining leakage with minimal friction.
4. Stainless steel wave spring, energized by the follower, internally adjusts softer sealants throughout its travel length.

ELIMINATE FLUSH, SCORED SLEEVE



1. Pack-Ryt™ bearing minimizes run-out and deflection.
2. Gator-Cage™ skeleton keeps bearing and outer packing seated and provides structure for injectable.
3. Marlo injectable flows through the Gator-Cage™ to fill irregular surfaces.
4. Marlo patented 472 provides mechanical barrier for Marlo injectable.

REDUCE FLUSH, MECHANICAL SEAL



1. Pack-Ryt™ bearing minimizes run-out and deflection which alleviates angular seal face separation.
2. Flush flow substantially reduced due to much closer shaft/bearing clearance than conventional throttle bushings provide.

Please fill in all data!!

Shaft/Sleeve
Mic. Diameter _____"

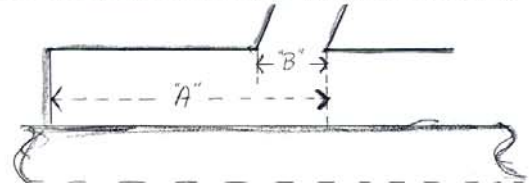
Bore Mic.
Diameter _____"

Stuffing Box
Depth _____"

RPM _____ % Solids _____

Media _____ Temperature _____ °F

Media Pressure _____ PSI



Stuffing Box Bottom to
Outside Edge of Flush
Hole (Dim. "A") _____"

Diameter of Flush
Hole (Dim. "B") _____"

Equip. Mfr. _____

Model # _____





Physical properties, **PACK-RYT (P.R.)** bearing versus Glass

filled Teflon (GFT) and Carbon/molly filled Teflon (CMFT).

<u>PROPERTY</u>	<u>ASTM</u>	<u>UNITS</u>	<u>P.R.</u>	<u>GFT</u>	<u>CMFT</u>
Specific gravity	D1457-62	GR/CC	1.6	2.22	2.1
Tensile strength	D638	PSI	9,800	2,300	2,010
Elongation	D638	%	3	270	62
Flexural strength	D790	PSI	11,000	1,275	1,375
Flexural modulus	D790	10(-5)in/in(2)	1	1.9	1.6
Compressive strength	D695	PSI	22,000	1,460	975
Coef/therm/expansion	D696	10(-5)in/in(F)	2	6.4	5.4
Coef / friction	D1894-95	Static/kinetic	0.14	0.11	0.08
Hardness	Shore	D	85	62	60

These properties are typical without regard for variances in compounding,

manufacturer to manufacturer.

Pack- RYT Installation Instructions

- 1. Remove all old packing, lantern ring, etc. and thoroughly clean the shaft and stuffing box. Be sure no solids are present in the sealing area. Disconnect any discharge flush lines and plug the hole, leaving only the “ in “ line, so all flush goes only towards the bearing and the packing.**
- 2. Split the bearing and re-assemble over the shaft making sure the extraction holes are facing you as you slide the bearing in.**
- 3. If the bearing will not pilot, use a Porta-Power or other device to centre the shaft and then let it relax once you have installed all parts. If significant bore corrosion prevents installation, you may lightly and evenly sand the O.D. with fine crocus cloth.**
- 4. Make sure the bearing is fully seated in the bottom of the box. Taking depth measurements beforehand will let you know if you have accomplished this.**
- 5. Install each packing ring individually, staggering the joints.**
- 6. If the set contains 396C, bring the gland follower to the packing and seat firmly. Do not over crush the packing. Then back off the nuts and let the packing relax for 15 to 20 minutes. Bring the nuts back up to the follower finger tight and you are ready to run.**
- 7. If the packing portion is either ALL 317 or 7413, tamp each ring firmly during installation and tighten the follower nuts finger tight.**
- 8. If you are using the BLR configuration (with a lantern ring groove) turn the service water on full force before starting the pump. Ensure that there is controlled water leakage out of the gland during start up. The leak free process is achieved through gradual and controlled pulling up of the gland follower.**
- 9. Make packing adjustments no more than 2 flats on all nuts at a time. Wait a few minutes between adjustments.**

If you encounter any difficulty accomplishing these steps or have any questions regarding installation or performance please contact the technical department of Klinger Limited Australia, on 08 9350 1100.

The Pack-RYT can be used on many applications and a few examples are:

**Vacuum Pumps
Condensate Pumps
Boiler Feed Pumps
Hydra pulpers
Bottom scrapers – in conjunction with Marlo 7413
Screens
Asphalt pumps
River water pumps
Fry oils
Glue / Starch pumps
Sewerage pumps
Cooling tower pumps
Fire water pumps
Waste water pumps
LP Feeders / HP Feeders
Caustic pumps
Pulp pumps
Ash pumps
Mixed juice pumps
Raw juice pumps
Syrup pumps
Dry powders
Animal fat
Slurry pumps
Lime pumps
+ many more**