

TECHNICAL BULLETIN #4

Recommended Lubricants for Tuthill M-D Pneumatics™ Rotary Blowers and Vacuum Boosters

| RECOMMENDED MINERAL BASED LUBRICANTS | | | | |
|--------------------------------------|-------------------------------|----------------------|---------------------------|------------------------------|
| AMBIENT TEMPERATURE | SHELL | CITGO | CHEVRON | EXXONMOBIL |
| 0° to 32° F (-18° to 0° C) | TELLUS® S2 M 68 (ISO 68) | A/W 68 (ISO 68) | RANDO HD 68 (ISO 68) | DTE HEAVY MEDIUM (ISO 68) |
| 32° to 90° F (0° to 32° C) | TELLUS® S2 M 100 (ISO 100) | A/W 100 (ISO 100) | RANDO HD 100 (ISO 100) | DTE HEAVY (ISO 100) |
| 90° to 120° F* (32° to 50° C) | | A/W 150 (ISO 150) | RANDO HD 150 (ISO 150) | DTE EXTRA HEAVY (ISO 150) |

| RECOMMENDED SYNTHETIC BASED LUBRICANTS** | | | |
|--|------------------------|----------------------|--------------------------------|
| AMBIENT TEMPERATURE | TUTHILL | EXXONMOBIL | SHELL |
| 0° to 32° F (-18° to 0° C) | PneuLube™ (ISO 100) | SHC 626 (ISO 68) | MORLINA® S4 B 68 (ISO 68) |
| 32° to 90° F (0° to 32° C) | | SHC 627 (ISO 100) | MORLINA® S4 B 100 (ISO 100) |
| 90° to 120° F* (32° to 50° C) | | SHC 629 (ISO 150) | MORLINA® S4 B 150 (ISO 150) |

| RECOMMENDED MINERAL BASED, FOOD GRADE LUBRICANTS | | |
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| AMBIENT TEMPERATURE | Lubricant meeting U. S. FDA regulation 21 CFR 178.3570 governing petroleum products which may have incidental contact with food, and USDA H1 requirements | Lubricant meeting U.S. FDA regulations 21 CFR 172.878 and 178.3620(a) for direct and indirect food contact |
| 0° to 32° F (-18° to 0° C) | CITGO CLARION® A/W 68 (ISO 68) | CITGO CLARION® 350 FOOD GRADE (ISO 68) |
| 32° to 90° F (0° to 32° C) | CITGO CLARION® A/W 100 (ISO 100) | CONSULT FACTORY |
| 90° to 120° F* (32° to 50° C) | CONSULT FACTORY | CONSULT FACTORY |

| RECOMMENDED SYNTHETIC BASED, FOOD GRADE LUBRICANTS | | |
|--|---|--|
| AMBIENT TEMPERATURE | Lubricant meeting U. S. FDA regulation 21 CFR 178.3570 governing petroleum products which may have incidental contact with food, and USDA H1 requirements | Lubricant meeting U.S. FDA regulations 21 CFR 172.878 and 178.3620(a) for direct and indirect food contact |
| 0° to 32° F (-18° to 0° C) | PneuLube™ FG (ISO 100) | CONSULT FACTORY |
| 32° to 90° F (0° to 32° C) | | |
| 90° to 120° F* (32° to 50° C) | | |

| RECOMMENDED LUBRICANTS FOR M-D VACUUM BOOSTERS (90/91, 92/93, 96, 31/33 AND 35/37 SERIES) | |
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| REQUIREMENTS | |
| <ul style="list-style-type: none"> Suitable for high vacuum service 100 cSt @ 40° C Vapor pressure of 1 micron or less @ 70° F (21° C) Straight mineral (no additives) or PAO synthetic oil | |

| RECOMMENDED GREASE FOR COMPETITOR® PLUS BLOWERS: | |
|---|--|
| TUTHILL | CITGO |
| Tuthill PneuLube™ NLGI #2 premium grade, petroleum base lithium grease. | For food grade requirements: Use Citgo Clarion® Food Grade HTEP grease, NLGI No. 2 grade. It meets all requirements of FDA Regulation 21 CFR 178.3570 (the former USDA H-1 approval requirements) for lubricants having incidental contact with food. |

* For higher ambient temperatures, please consult the factory.

** Blowers used in oxygen-enriched service should use only Castrol Brayco 1726 Plus non-flammable, PFPE synthetic lubricant. Blowers used in hydrogen service should use only PneuLube synthetic oil. Tuthill Vacuum & Blower Systems cannot accept responsibility for damage to seals, O-rings and gaskets caused by use of synthetic lubricants not recommended by Tuthill Vacuum and Blower Systems.