

# PETRONAS JENTERAM U SERIES

## Premium Performance Ashless Industrial Turbine Oil

PETRONAS Jenteram U Series are premium performance turbine oils specially developed for use in modern steam, light and heavy duty gas turbines, combined cycle turbines where there are no associated gear drives lubricated by the turbine oils.

Formulated with high quality selected base oils enhanced with advanced zinc-free anti-wear, anti-oxidant, anti-rust and anti-foam additives, PETRONAS Jenteram U oils provide excellent varnish control, very good anti-wear protection and high thermal and oxidation stability for up to 3x longer lasting performance\*.

PETRONAS Jenteram U Series meets or exceeds key industrial specifications and OEM requirements.

\*vs. minimum requirements of DIN 51515 Part II for industrial turbine fluids based on TOST results (ASTM D943)

### Applications

PETRONAS Jenteram U Series are recommended for use in:

- modern steam, light and heavy duty gas turbines, combined cycle turbines where there are no associated gear drives lubricated by the turbine oils
- turbine systems that require excellent varnish control performance
- even in the lubrication of plain and rolling element bearings

### Features and Benefits

Features	Benefits
Excellent varnish protection	Protects equipment components, especially turbine control valves, extending equipment life
Very good anti-wear protection	Protects equipment components from excessive wear and provides long equipment life
Very good filterability	Maintains good filter efficiency and turbine system cleanliness which prevents sludge deposits
High thermal and oxidation stability	Maintains performance levels under high temperatures and pressure, enabling long oil drain intervals
Excellent rust & corrosion protection	Inhibits the corrosion process that occurs in presence of water, improving equipment life
High air release and foam stability	Maintains high efficiency in turbine systems and ensures smooth operation of the system due to rapid air release. Protects the system from air degenerative effects reducing maintenance costs

# PETRONAS JENTERAM U SERIES

## Premium Performance Ashless Industrial Turbine Oil

Features	Benefits
Very good water separability	Due to good water separability the system is protected from water degenerative effects, maintaining turbine efficiency at required level and reducing maintenance costs
High multi metal compatibility	Compatible with most metal alloys ensuring trouble free performance of the system
High compatibility with most seal and elastomers	Compatible with most seals and elastomers, which prevents oil leaks and contamination due to seal erosion

### Typical Properties

Characteristic	Method	Specification	32	46	68
Specific Gravity @15°C	ASTM D 4052	Report	0,859	0,862	0,868
Kinematic Viscosity at 40°C, cSt	ASTM D 445	±10%	32	46	68
Kinematic Viscosity at 100°C, cSt	ASTM D 445	(1)	5,5	7,1	9,0
Viscosity Index	ASTM D 2270	Min. 90	108	113	107
Flash Point, °C	ASTM D 92	**	220	220	240
Pour Point, °C	ASTM D 97	Max. -6	-33	-33	-30
TAN, mgKOH/g	ASTM D 664	Report	0,15	0,15	0,15
Water Separability, 40/37/3 - mins	ASTM D 1401	(1)	10	10	15
Copper Strip Corrosion	ASTM D 130	Max. 2	1b	1b	1b
Foam Sequence I, mL		Max. 450/0	0/0	0/0	0/0
Foam Sequence II, mL	ASTM D 892	Max. 50/0	0/0	0/0	0/0
Foam Sequence III, mL		Max. 450/0	0/0	0/0	0/0
Air Release @50°C, mins.	ASTM D 3427	Max. 5	0,9	1,9	2,4
RPVOT, mins.	ASTM D 2272	Min. 750	850	850	850
TOST life. hrs.	ASTM D 943	Min. 3500	10500	10500	10500
Cleanliness (purity)	ISO 4406	Max. 20/17/14	≤20/17/14	≤20/17/14	≤20/17/14

All technical data is provided for reference only and all specification based on DIN 51515 Part II

\*\*Individual limits accordingly with each viscosity grade / (1): not required in specification / SS is available upon request including quality control limits

# PETRONAS JENTERAM U SERIES

## Premium Performance Ashless Industrial Turbine Oil

### Performance Levels

- ALSTOM HTGD 90117
- ASTM D-4304 Type I
- BRITISH STANDARD BS 489
- DIN 51515 Part I and II
- DIN 51524 Part I
- GB 11120-2011 L-TSA and L-TGA
- GENERAL ELECTRIC GEK-32568K
- ISO 8068 L-TSA & L-TGA
- ISO 11158 HH and HL
- SIEMENS AG TLV 9013 05
- SIEMENS AG TLV 9013 04

### Health, Safety and Environment

This product is unlikely to present any significant health and safety hazards when used in the recommended application. Avoid contact with skin. Wash immediately with soap and water after skin contact. Do not discharge into drains, soil or water.

For further detail regarding storage, safe handling, and disposal of product, please refer to product SDS or contact us at: [www.pli-petronas.com](http://www.pli-petronas.com)

### Important Note

The word PETRONAS, the PETRONAS logo and such other related trademarks and/or marks used herein are trademarks or registered trademarks of PETRONAS Lubricants International Sdn. Bhd. ("PLISB"), or its subsidiaries or related Holding Corporation under license unless indicated otherwise. The PLI Documents and the information contained herein is believed to be accurate as of the date of printing. PLISB makes no express or implied representation or warranties as to its accuracy or completeness or information in or any transaction performed. The PLI Documents information provided is based on standard tests under laboratory conditions and is given only as a guide. Users are advised to ensure that they refer to the latest version of these PLI Documents. It is the responsibility of the users to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations imposed by the respective local authorities.

Safety Data Sheets are available for all our products and should be only be consulted for appropriate information regarding storage, safe handling and disposal of the product. No responsibility shall be taken by either PLISB or its subsidiaries and related holding corporation for any loss or injury or any direct, indirect, special, exemplary, consequential damages or any damages whatsoever, whether in action of contract, negligence or other tortious action, in connection or resulting from abnormal use of the materials and/or information, from any failure to adhere to recommendations, or from hazards inherent in the nature of the materials and/or information. All products, services and information supplied are under our standard conditions of sale. Please consult with any of our local representative in the event you require any further information.