

FTS SERVICE PROGRAM – TAILOR-MADE FOR YOU

At PETRONAS, we believe success is made by close partnerships. It is that very belief that drives us to work together with you in overcoming the challenges you face – from demands of higher productivity to operating under intense, severe conditions.

That's why we present to you our **Fluid Technology Solutions™** Service Program – a tailor-made range of services designed to maximise your business performance. From specialised on-site analysis to emergency support for operational recovery, we are committed to assisting you in every possible situation.

Partner with us and take your business to the next level.

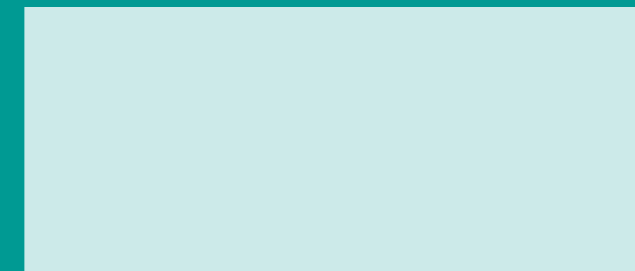


PROVEN EXPERTS, ALWAYS READY TO HELP!

At the heart of our services, our experts strive to give you the peace-of-mind you're looking for.

Partner with us and take your business to the next level.

For more information, please contact:



PLI090_Power Generation_Mixtur_EN_138



PETRONAS Fluid Technology Solutions™

YOUR PARTNER FOR PROGRESS

PETRONAS Lubricants International (PLI) is the global lubricant division of PETRONAS, one of the most successful petrochemical companies in the world.

Our mission is to deliver proven product technology and related services benefitting from our 100 years of experience. We believe in maximising your productivity with value-added products and services that are global, yet personal – our presence in 128 countries ensures our technical expertise reaches you wherever you are.

PLI's differentiator is product excellence, developed by world-class Technology Centres and brought to your market with local expertise. Our passion for performance improvement makes us an obvious choice for key OEMs and delivers success in Formula One Motorsport. Now, it has translated into a comprehensive industrial product range and tailor-made services for you.



Together, let's take your operational performance to the next level.

YOUR CHALLENGES, OUR EXPERTISE

The ever-increasing demand for energy has become a major challenge for the power industry worldwide. As a result, generating plants are being pushed to the limits of their operating performance and reliability. Long maintenance intervals, extreme operating conditions, such as exposure to high temperatures and pressures, water contamination and complexity of the equipment, all combine to increase the challenges of maintaining power generation systems. When the effects of an unexpected breakdown can cause disruption to lives and industry, incurring huge costs on a daily basis, reliable, high quality lubricants are vital.

As the preferred strategic partner and provider of lubrication solutions to major

power generators worldwide, we have gained a thorough understanding of the lubrication requirements and challenges facing your business.

With a holistic approach in mind, we have developed **Fluid Technology Solutions™**, an intelligent approach to your fluid requirements that maximises your business performance through tailor-made product offerings and expert services. It is designed to help your business reach new levels in productivity and profitability by enabling better efficiency and quality.

With PETRONAS on board, you can be assured of a reliable partner for progress.



PETRONAS
Fluid Technology
Solutions™

**TAKING YOU TO THE NEXT LEVEL
IN OPERATIONAL PERFORMANCE
POWER GENERATION**

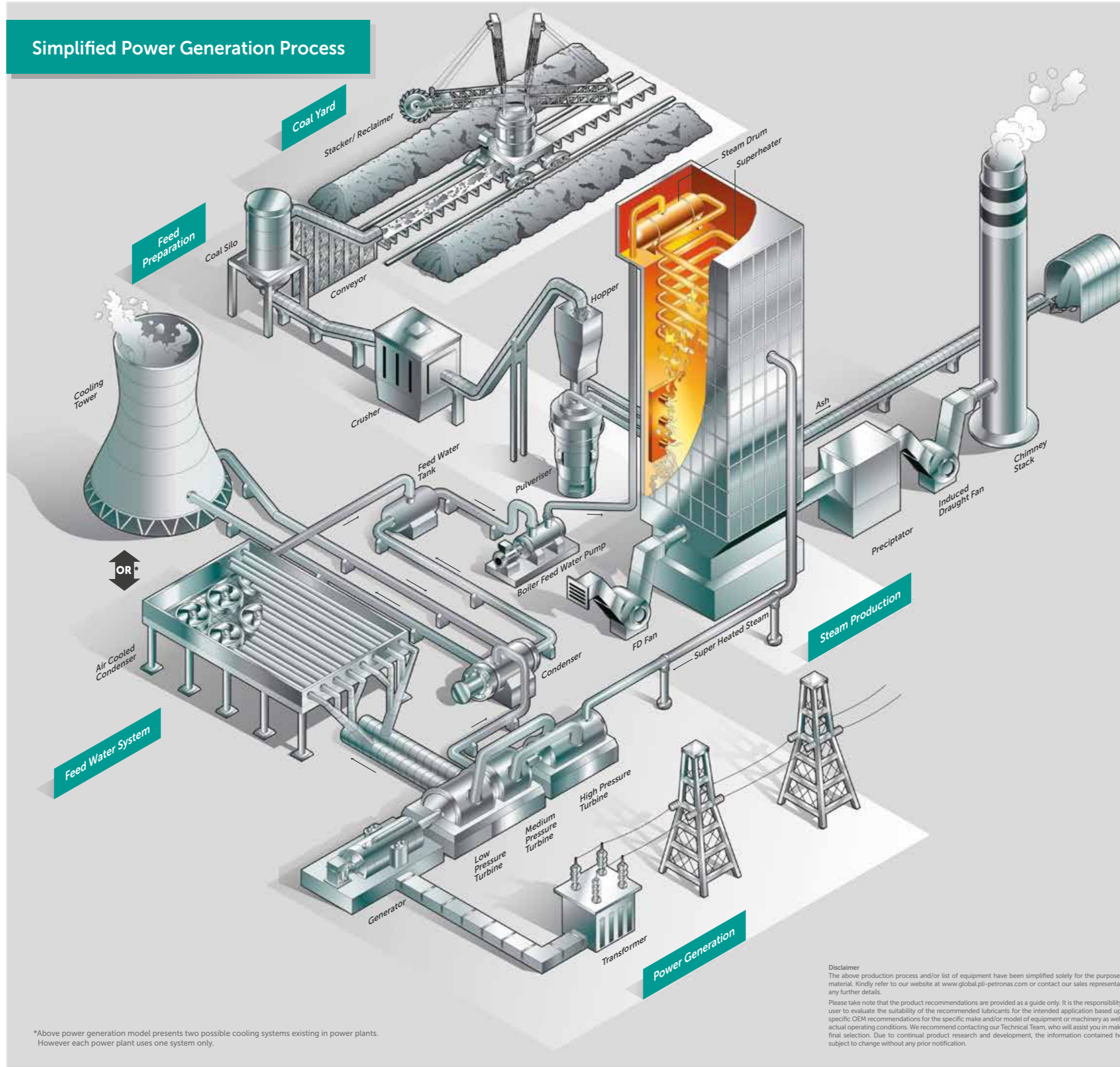
YOUR KEY TO MAXIMIZING PERFORMANCE

By focusing our expertise and utilising the latest advances in lubrication technology, we have developed a comprehensive range of state-of-the-art lubricants that meets the needs of all power-generating equipment. Choose the correct lubricant for equipment requirements and watch your productivity accelerate to the next level.



PRIMARY PROCESS	EQUIPMENT	LUBRICATION PARTS	LUBRICANT	STANDARD	PREMIUM	SUPREME
Coal Yard	Dump Truck, Wheel Loaders, Front End Loaders	Converter	Transmission Oil	PETRONAS Powertrans T4 30W		
		Cooling System	Coolant Fluid	PETRONAS Parafu 11	PETRONAS Parafu Up Ready	
		Engine	Engine Oil	PETRONAS Urania LD 7	PETRONAS Urania 5000E 15W40	PETRONAS Urania 7000E 10W40
		Final Drive	Transmission Oil	PETRONAS Powertrans T4		
		Grease Points	Grease	PETRONAS Grease LIX MEP	PETRONAS Grease LiCa MG HL	PETRONAS Grease LiCa MG XHL
	Feeders	Hydraulics / Steering	Transmission Oil	PETRONAS Powertrans T4 10W		
		Transmission	Transmission Oil	PETRONAS Powertrans T4 30W		
		Bearings	Grease	PETRONAS Grease LIX EP 2/380	PETRONAS Grease LIX Syn 2/220	PETRONAS Grease LIX Syn 2/220
		Coupling (Grease)	Grease	PETRONAS Grease PE HS		
		Coupling (Oil)	Turbine Oil	PETRONAS Jenteram	PETRONAS Jenteram G	PETRONAS Jenteram Syn
Stacker / Reclaimer	Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO	
	Hydraulics (Stationary)	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF	
	Open Gears	Grease	PETRONAS Grease LiCa TMG			
	Reclaimer Chains	Grease	PETRONAS Grease LIX EP	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/460	
Silos And Stock Piles	Bearings	Grease	PETRONAS Grease LIX EP	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/460	
	Cables	Grease	PETRONAS Grease LiCa GEP 2.5			
	Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Gear Drives	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO	
	Grease Points	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/220	
Crusher	Hydraulics (Stationary)	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF	
	Bearings (Grease)	Grease	PETRONAS Grease LIX EP	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/460	
	Bearings (Oil)	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO	
	Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO	
Conveyors / Handlers	Grease Points	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/220	
	Hydraulics (Stationary)	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF	
	Bearings (Grease)	Grease	PETRONAS Grease LIX EP	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/460	
	Bearings (Oil)	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO	
	Conveyor Back Stop	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Coupling (Grease)	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS		
	Coupling (Oil)	Turbine Oil	PETRONAS Jenteram	PETRONAS Jenteram G	PETRONAS Jenteram Syn	
	Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO	
	Grease Points	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/220	
Hydraulics (Stationary)	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF		
Open Gears	Grease		PETRONAS Grease LiCa TMG			

Simplified Power Generation Process



*Above power generation model presents two possible cooling systems existing in power plants. However each power plant uses one system only.

Disclaimer
The above production process and/or list of equipment have been simplified solely for the purpose of this material. Kindly refer to our website at www.global.pli-petronas.com or contact our sales representative for any further details.
Please take note that the product recommendations are provided as a guide only. It is the responsibility of the user to evaluate the suitability of the recommended lubricants for the intended application based upon the specific OEM recommendations for the specific make and/or model of equipment or machinery as well as the actual operating conditions. We recommend contacting our Technical Team, who will assist you in making the final selection. Due to continual product research and development, the information contained herein is subject to change without any prior notification.

PRIMARY PROCESS	EQUIPMENT	LUBRICATION PARTS	LUBRICANT	STANDARD	PREMIUM	SUPREME
Feed Preparation	Pulveriser (Vertical)	Bearings (Grease)	Grease			PETRONAS Grease LIX Syn 1/1500
		Bearings (Oil)	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Grease Points	Grease	PETRONAS Grease LIX MEP	PETRONAS Grease LiCa MG HL	PETRONAS Grease LiCa MG XHL
	Ball Mill / Tube Mill	Hydraulics (Stationary)	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF
		Bearings (Grease)	Grease	PETRONAS Grease LIX EP	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/460
		Bearings (Oil)	Circulation Oil	PETRONAS Circula		PETRONAS Circula Syn
		Coupling (Grease)	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS	
		Electric Motor Bearings (Grease)	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
Steam Production	Pre-Heater	Electric Motor Bearings (Oil)	Circulation Oil	PETRONAS Circula		PETRONAS Circula Syn
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Open Gears	Grease	PETRONAS Grease LIX EP	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/460
		Thrust Bearing	Circulation Oil	PETRONAS Circula		PETRONAS Circula Syn
		Bearings (Grease)	Grease			PETRONAS Grease LIX Syn 1/1500
	Boiler	Bearings (Oil In Circulating System)	Gear Oil			Petronas Gear Syn PAG
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Grease LIX Syn 2/220
		Worm Gearbox / Reducer	Gear Oil			PETRONAS Grease LIX Syn 2/220
		Dampers	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/220
Feed Water System	Soot Blower	Pressure Relief Valves	Grease			
		Gearbox / Reducer (Grease)	Grease			PETRONAS Grease Clay Syn 2/220
		Gearbox / Reducer (Oil)	Gear Oil			PETRONAS Grease Clay Syn 2/220
		Grease Points	Grease			PETRONAS Grease LIX EP 2/380
		Coupling (Grease)	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS	PETRONAS Grease LIX Syn 2/220
	Draught Group - Fans	Coupling (Oil)	Turbine Oil	PETRONAS Jenteram	PETRONAS Jenteram G	PETRONAS Jenteram Syn
		Electric Motor Bearings (Grease)	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Electric Motor Bearings (Oil)	Circulation Oil	PETRONAS Circula		PETRONAS Circula Syn
		Forced Draught Fan Bearings (Grease)	Grease	PETRONAS Li EP 2	PETRONAS Grease CaSX	PETRONAS Grease LIX Syn 2/220
		Forced Draught Fan Bearings (Oil)	Circulation Oil	PETRONAS Circula		PETRONAS Circula Syn
Power Generation	Electrostatic Precipitators	Induced Draught Fan Bearings (Grease)	Grease	PETRONAS Li EP 2	PETRONAS Grease CaSX	PETRONAS Grease LIX Syn 2/220
		Induced Draught Fan Bearings (Oil)	Circulation Oil	PETRONAS Circula		PETRONAS Circula Syn
		Primary Air Fan Bearings	Grease			PETRONAS Grease CaSX
		Secondary Air Fan Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	PETRONAS Grease LIX Syn 2/220
		Electric Motor Bearings (Grease)	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	PETRONAS Grease LIX Syn 2/220
	Feed Water & Condensate Pumps	Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹¹	PETRONAS Gear FL	PETRONAS Gear Syn PAG
		Grease Points	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/220
		Rapper Bearings (Grease)	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LIX EP 2/170	PETRONAS Grease LIX Syn 2/220
		Bearings (Grease)	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LIX EP 2/170	PETRONAS Grease LIX Syn 2/220
		Bearings (Oil)	Circulation Oil	PETRONAS Circula		PETRONAS Grease LIX Syn 2/220
Pumps	Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Gearbox / Reducer (Variable Speed)	Circulation Oil	PETRONAS Circula		PETRONAS Grease LIX Syn 2/220	
	Grease Points	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LIX EP 2/170	PETRONAS Grease LIX Syn 2/220	
	Turbine Drive	Turbine Oil	PETRONAS Jenteram	PETRONAS Jenteram G	PETRONAS Jenteram Syn	
	Bearings (Grease)	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LIX EP 2/170	PETRONAS Grease LIX Syn 2/220	
Fans	Bearings (Oil)	Circulation Oil	PETRONAS Circula		PETRONAS Grease LIX Syn 2/220	
	Electric Motor Bearings (Grease)	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Electric Motor Bearings (Oil)	Circulation Oil	PETRONAS Circula		PETRONAS Grease LIX Syn 2/220	
	Gearbox / Reducer	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LIX EP 2/170	PETRONAS Grease LIX Syn 2/220	
	Hydraulics (Stationary)	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF	
Turbine & Generator	Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP	PETRONAS Gear FL	PETRONAS Gear Syn PAO	
	Grease Points	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease LiCa Semi Syn	PETRONAS Grease LIX Syn 2/220	
	Turbine Control System	Turbine Oil			PETRONAS Jenteram G	
	Bearings (Oil)	Turbine Oil	PETRONAS Jenteram	PETRONAS Jenteram G	PETRONAS Jenteram Syn	
Transformer	Reservoir (Inhibited)	Transformer	PETRONAS Elektron X			
	Reservoir (Uninhibited)	Transformer	PETRONAS Elektron			

¹¹ Premium Product