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Tomorrow's solutions today

POWERING DATA CENTRES
FOR AN ATMANIRBHAR BHARAT

A GLOBAL LEADER IN POWER CABLES, FIBRE OPTIC CABLES, AND SPECIALITY OILS.

APAR EMPOWERING A SMARTER WORLD SINCE 1958

Presence in

140+ Countries

9 Manufacturing Units

#1 Largest global aluminium & alloy conductor manufacturer

#3 Largest global manufacturer of Transformer oils

#1 Largest manufacturer of Renewable & Speciality Cables in India

Manufacturer of OFC & Hybrid Cables

66+ YEARS of Manufacturing Experience

$2.2 BILLION FY25 Consolidated Revenue

$4.2 BILLION Market Capitalisation

33% EXPORT REVENUES

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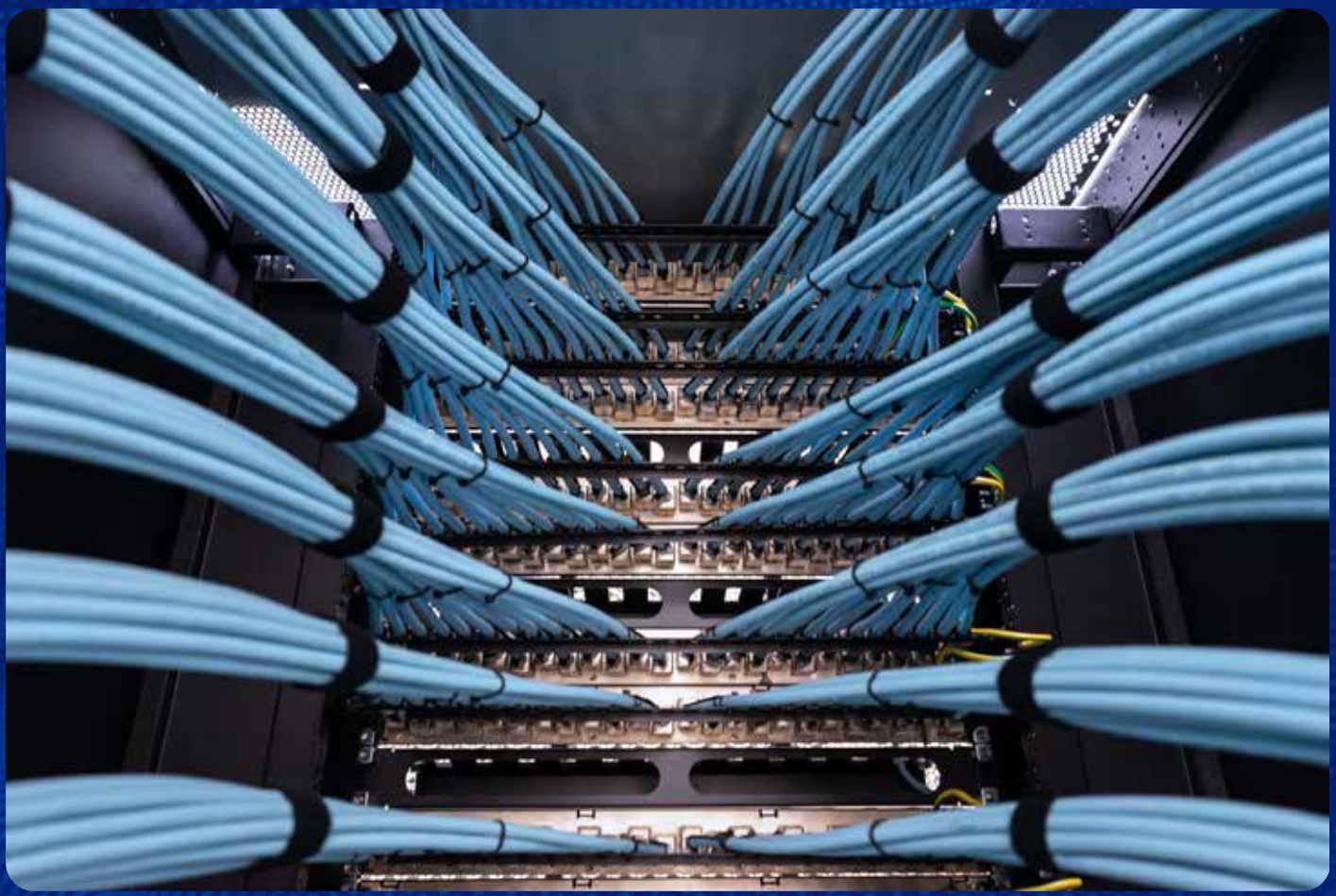
CABLES FOR DATA CENTRE



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CABLE
PRODUCT PORTFOLIO

POWER CABLES & WIRES

- XLPE LV Power Cables
- XLPE MV Power Cables
- XLPE LV Control Cables
- Medium Voltage Covered Conductors (MVCC)
- LV & HV ABC Cables
- Instrumentation Cables
- Concentric Core (Anti-Theft) Cables
- Railway Signaling Cables
- Fire Survival Cables

ELASTOMERIC & E-BEAM CABLES

- Solar Cables
- Windmill Cables (72 kV)
- Locomotive Cables
- Ship Wiring Cables
- Trailing Cables
- Welding Cables
- Mining Cables
- LFH Cables & Wires
- EPR, Silicon, EVA
- Auto Cables

HOUSE WIRES AND FLEXIBLES

- House Wires
- E-Beam Cross Linked House Wires
- 3 Core Flat Cables
- Round Multicore Flexible Cables
- Cat 6 LAN Cables
- CCTV Cables
- Coaxial Cables
- Telephone Cables

CABLE HARNESS

- Automotive & EV
- Locomotives
- Railway Coach
- Solar Projects
- Wind Projects
- Aerospace & ship building
- Data Centers
- Defence Trucks & armed vehicles, communication systems

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APAR ALUM ANUSHAKTI

REVOLUTIONARY E-BEAM TECHNOLOGY

1. **SUPERIOR TEMPERATURE PERFORMANCE**
   Electron Beam radiation technology increases insulation temperature capability from conventional 70°C to 105°C, ensuring reliable operation in demanding data center environments.

2. **ENHANCED CURRENT CARRYING CAPACITY**
   Up to 58% higher ampacity compared to conventional FR-LSH PVC cables, enabling more efficient power distribution with smaller cable sizes.

3. **ADVANCED FIRE SAFETY**
   FR-LSH (Fire Retardant Low Smoke Halogen) properties with superior oxygen index (29%) and temperature index (250°C) for enhanced safety.

4. **OPTIMIZED FOR PDU APPLICATIONS**
   Specifically developed for Power Distribution Unit applications in data centers, offering flexibility and reliability for rack-level power distribution.

KEY APPLICATIONS

- **Data Center Infrastructure:**
  Primary and backup power distribution system
- **Server Racks and Cabinets:**
  High-density power rack connections
- **PDU Systems:**
  Rack mount and floor standing PDUs
- **UPS Connection:**
  Critical Power Backup Systems

ENVIRONMENTAL BENEFITS

- Low smoke emission (60% max smoke density)
- Reduced acid gas generation (20% max)
- Halogen free options available
- Compliant with IEC 60332 flammability standards

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ALUMINIUM CABLE SPECIFICATION

Parameter	APAR Alum Anushakti	Conventional Bare Aluminium	Conventional Bare Copper
Conductor Material	Tinned E.C. Grade Aluminium	Bare Aluminium	Bare Copper
Insulation Type	HR FR-LSH E-Beam PVC	FR-LSH PVC	FR - LSH PVC
Max Conductor Temp Rated	105°C	70°C	70°C
Max Short Circuit Temp	160°C	160°C	160°C
Oxygen Index (Min)	29%	29%	29%
Smoke Density (Max)	60%	60%	60%
Standard Compliance	IS 694-2010	IS 694-2010	IS 694-2010
Voltage Grade	1100V	1100V	1100V

Flame Retardant | Low Smoke | Short Circuit Resistant | Low Halogen | Heat Resistant @ 105° C

Note: Customized specifications can be made available upon specific request.

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APAR E-BEAM COPPER FLEXIBLE CABLE

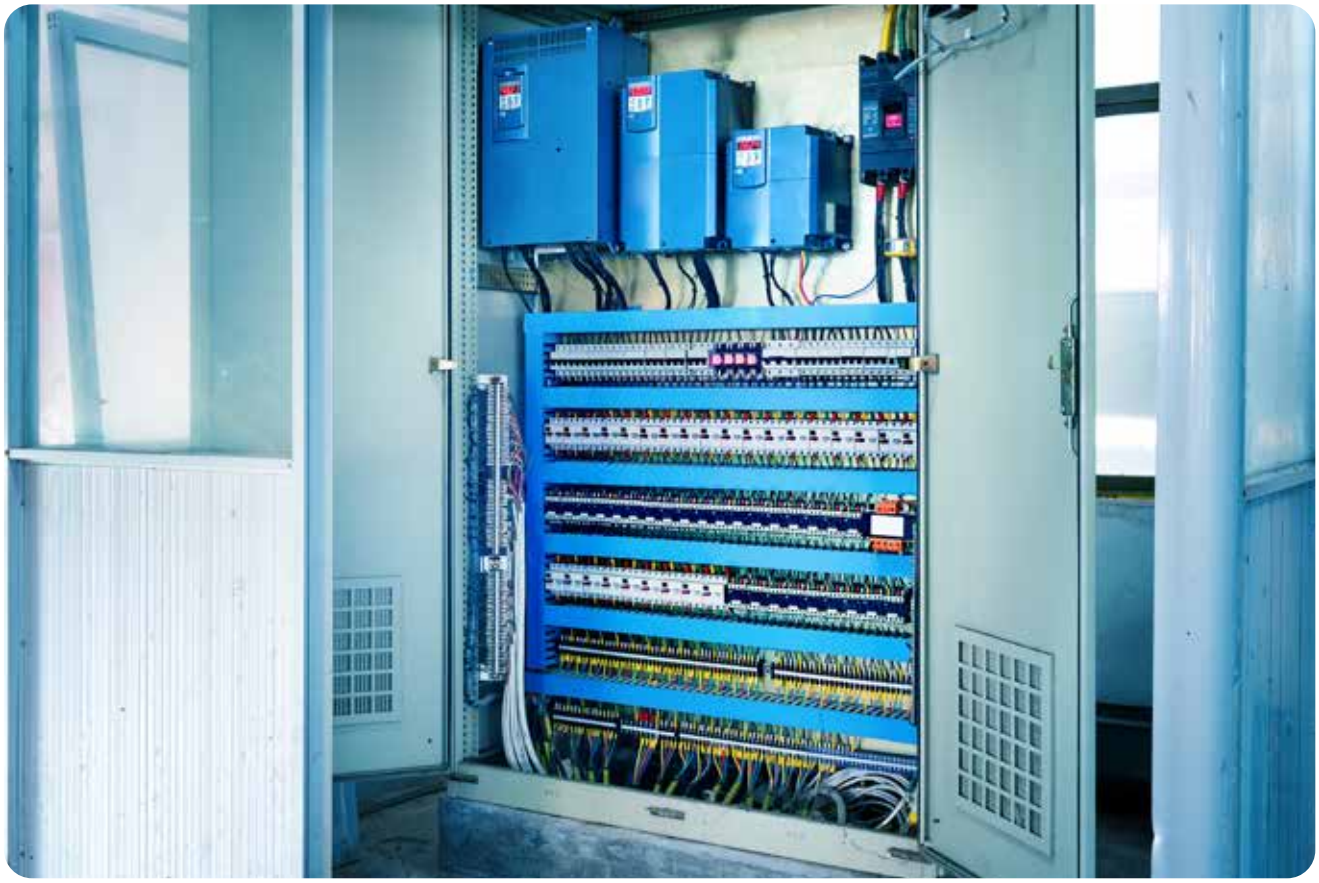
We have recently developed Electron Beam radiation radiated cables for PDU application where after this process Insulation temperature suitability increases to 105° C from conventional FRLSH PVC of 70°C.

TECHNICAL SUPERIORITY COMPARISON

Cable Size (sq.mm)	E-beam HR FR - LSH Copper Flexible Cable (Amps)			Conventional FR - LSH Copper Cable (Amps)			Improvement
	30 °C	35 °C	40 °C	30° C	35° C	40° C	
5Cx6	48	45	43	36	34	30	+43%
5Cx10	67	64	61	50	45	41	+49%
5Cx16	93	89	84	66	61	56	+50%

TEMPERATURE PERFORMANCE ADVANTAGE

105 °C	Vs	70 °C
E-beam Cable Max Operating Temperature		Conventional Cable Max Operating Temperature



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TELECOM CABLES FOR DATA CENTRES

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TELECOM SOLUTIONS
OVERVIEW

APAR is a leading Global Telecom Solutions company focusing on innovative solutions for global markets. The uniqueness lies in its design and manufacturing capabilities supported by backward integration. The wide range of tele-communication Optical Fibre Cable and Hybrid Cable products have been carved out from its rich experience across Telecom, Defense, Power and Transport industries over the years. APAR Telecom services has capability and potential to create digital networks, passive infrastructure gateways and network densification for Urban (Mobility Networks and FTTx, broadband Networks), Rural (Middle Mile and Last mile connectivity), Defense MHA (Border & Cantonment Fortification) and Enterprise Connectivity (across multiple Industries).

APAR's Telecom Solutions is driven by Innovation, customer-centricity and sustainability.

WORLD CLASS
PRODUCTION FACILITIES

APAR offers an extensive range of fibre optic cables for outdoor, indoor and speciality applications, ranging from 1F to 864F, and up to 1152F in ribbon design, with an installed capacity of 200,000 km of cable per annum. We are also capable of manufacturing and delivering customised cables for special applications, such as specific diameter micro cables for FTTX, drop cables with G 657 bend insensitive fibre for last-mile connectivity, and long span ADSS (All Dielectric Self-supporting) aerial cables designed to be strung alongside power lines.

Our state-of-the-art machinery enables us to manufacture all types of fibre optic cables along with highly equipped quality system, accredited with ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 27001:2013 & TL9000 from BSI and IRCLASS. Over the past 25 years, we have supplied wide range of Fibre Optic Cables across various sectors.






World Class Fibre Optic Cable Manufacturing Facilities.

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OPTICAL FIBRE CABLES FOR DATA CENTRES

DuctoFib

PRODUCT DETAILS AND APPLICATIONS

APAR's DuctoFib Fibre Optic Cables offer high durability and reliability for outside plant (OSP) use. They are available in Mono-Tube and Multi-Tube designs, support all fibre types up to 1152F, and perform in dry or wet conditions. They are suitable for duct installations using blowing or pulling techniques and can also be lashed for aerial deployment.

Loose Tube Double Jacket Cable
Range: 1F-864F

Loose Tube Ribbon Fibre Single/Double Jacket Cable
Range: 48F-1152F

PRODUCT FEATURES

- Small size, lightweight, flexible and easy to install in ducts
- Available in wide range of 1F-48F (Unitube) & 6F-1152F (Loose Tube) in both single-mode & multi-mode fibre variants
- Available with UL and CPR Ratings
- Operational Temperature -40°C to +70°C
- High Tensile and crush resistance, UV protection

ArmoFib

PRODUCT DETAILS AND APPLICATIONS

APAR's ArmoFib cables deliver robust protection and reliability for underground and direct-burial applications. With rugged metal armouring in ECCS, stainless steel, or aluminum, they are crush-resistant and rodent-proof. Supporting all fibre types up to 1152F in uni-tube and multi-tube designs, they are ideal for long-haul, junction, and inter-office communication systems, as well as LAN/WAN/SCADA networks in demanding environments.

Loose Tube Single Jacket Steel Tape Armoured Cable
Range: 12F-864F

Loose Tube Ribbon Fibre Single Jacket Steel Tape, Cable
Range: 48F-1152F

PRODUCT FEATURES

- Available in wide range of 1F-48F (Unitube) & (Loose Tube) 6F-1152F in both single-mode and multi-mode fibre variants
- High Tensile and crush resistance, UV protection
- Rodent and Termite resistant
- Operational Temperature -40°C to +70°C

COMPLIANCE STANDARDS

IEC 60793, IEC 60794, EIA/TIA, ITU-T, Telcordia GR-20, EN187000 and Customer specifications

Underground | Rodent Resistant | Water Resistant | UV Protected | RoHS COMPLIANT

Scan to download the complete range of catalogue

DuctoFib Cables	ArmoFib Cables

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GigaVolt

PRODUCT DETAILS AND APPLICATIONS

APAR's Giga-Volt Hybrid Cables integrate fibre and copper conductors to transmit power and data simultaneously through a single cable. Each design combines custom-configured power cores (AWG) with optical fibre subunits, protected by corrugated armour or peripheral strength members and UL/CPR-listed polymer sheathing suitable for indoor and outdoor use. Available in varied power–fibre configurations, they support **5G, Wi-Fi, DAS, IoT, and M2M** deployments. The cables are particularly suited for **data centres,** remote radio heads, small cell towers, IP device networks, DAS systems, and telecommunication rooms—providing simplified installation, lower power loss, and enhanced operational performance.

2-4 Core X 1.0 Sq.mm +1 - 48 F
Microduct Hybrid Cable

PRODUCT FEATURES

- Power and Fibre Optic Combination in an Compact Design
- High Tensile Strength
- Optimum Bending Radius
- Operational Temperature -40°C to +70°C
- UL / CPR Listed Product

Fireoproof

PRODUCT DETAILS AND APPLICATIONS

APAR's Fireproof Fibre Optic Cables are specially engineered to meet stringent fire safety standards, ensuring reliable communication even under extreme conditions. Designed for critical infrastructure, they are ideal for environments such as data centres, where uptime and equipment protection are paramount. Their robust mechanical strength and fire-survival performance ensure uninterrupted connectivity and safeguard sensitive systems. These cables are also available in customized designs to meet specific application needs.

Unitube Single Jacket
Indoor Dielectric Fire Resistant Cable
(850°C - 180 mins)
ISP Range 1F-24F

Loose Tube Triple Jacket
All Dielectric Cable
(850°C - 120 mins)
OSP Range: 12F-96F

PRODUCT FEATURES

- Available in wide range of 1F-96F, in both single-mode and multi-mode fibre variants
- Excellent mechanical and fire survival protection
- Meeting international fire standards
- Available with extended fire resistance upto 180 Minutes at 850° C

COMPLIANCE STANDARDS

IEC 60332, IEC 60754, IEC 61034, IEC 60331 / IEC 60331-25, IEC 60793, IEC 60794, EN 50575:2014, EN 187000, UL 1277, UL 83, UL 1651, ICEA S-119-741-2021, ICEA S-104-696-2019, Telcordia GR-20 / GR-20-CORE Issue 4, AS/NZS 60331-25, AS/NZS 1660-5-2, EIA/TIA, and ITU-T.

Fire Resistant | Low Smoke | Water Resistant | Flame Retardant | RoHS COMPLIANT | UL | CPR

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GigaVolt Cables	Fireoproof Cables

LMConnect

PRODUCT DETAILS AND APPLICATIONS

APAR's LMConnect cables deliver high-speed connectivity directly to residential, enterprise, and data centre environments. Designed for exceptional speed, uninterrupted access, and unparalleled reliability, the LMConnect range includes fibre optic cable solutions (1F–24F) that meet the diverse needs of complexes, businesses, and mission-critical facilities. Ideal for inter-office connections, and video/data/internet transmission, these cables support advanced configurations such as MPO and Simplex assemblies. By eliminating the limitations of copper networks, APAR's LMConnect cables enable the next generation of Gbps fibre connectivity for smarter, faster, and more resilient communication infrastructures.

Flat Drop Indoor Cable
Range: 1F-24F

Breakout Cable
Range: 1F-24F

PRODUCT FEATURES

- Supports gigabit ethernet (1000bT) standard
- Compatible with all systems according to ANSI/TIA 568-2D
- Multiple bandwidth options

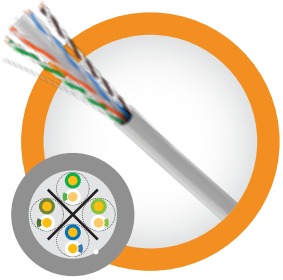
COMPLIANCE STANDARDS

IEC 60793, IEC 60332, IEC 60794, EIA/TIA, ITU-T, Telcordia GR-20, EN187000

TARANG SHAKTI

PRODUCT DETAILS AND APPLICATIONS

APAR's TarangShakti LAN cables deliver high performance for fast and reliable data, voice, and video transmission across Local Area Networks (LANs). Designed to support Gigabit Ethernet (1000Base-T), they are available in UTP, FTP, STP, and S/FTP variants with LSZH and FR-PVC jackets for enterprise and industrial applications. Ideal for office networks, data centers, educational institutions, and residential setups, they ensure consistent high-speed connectivity across diverse environments.



CAT 6, CAT 6A, CAT 7
U/UTP Cable

PRODUCT FEATURES

- Supports gigabit ethernet (1000bT) standard
- Compatible with all systems according to ANSI/TIA 568-2D
- Multiple bandwidth options
- Support power over ethernet (PoE)

COMPLIANCE STANDARDS

Compatible with all common systems according to ANSI/TIA-568.2-D and ISO/IEC 11801

Easy Strippable | Better Flexibility | Water Resistant | UV Protected

RoHS COMPLIANT

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Tarang Shakti Cables	LMConnect Cables

Note: Customized specifications can be made available upon specific request for all listed products.

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SPECIALITY OIL COOLANT FOR DATA CENTRE

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APAR SPECIALITY OILS FOR DATA CENTRES

POWERING THE WORLD'S CRITICAL SYSTEMS —FROM ENERGY TO INFORMATION.

APAR Industries Limited has been at the forefront of high-performance oil technology since its establishment in **1958.** With an extensive portfolio spanning **transformer oils, white oils, automotive and industrial lubricants,** APAR has earned a reputation as a trusted global partner for mission-critical applications.

Today, APAR stands as the **third-largest manufacturer and supplier of transformer oils in the world,** serving customers in over **140 countries** and meeting the **most stringent global standards for performance, safety, and reliability.** Our products are engineered to deliver **high flash points, low pour points, excellent oxidation stability, and superior dielectric strength,** ensuring efficiency and longevity across diverse operating environments.

With **over six decades of experience** in **dielectric fluids and thermal management solutions,** APAR's expertise extends from **power transformers** and **battery cooling systems** to **advanced immersion coolants** for **data centres and electronic applications.**

INTRODUCING POWEROIL DC 10 – SINGLE PHASE IMMERSION COOLANT

The exponential growth of data centres has brought energy efficiency, thermal performance, and sustainability into sharp focus. Traditional air-cooling systems are reaching their limits in managing the heat generated by modern high-density servers and processors.

POWEROIL DC 10, APAR's **Single Phase Immersion Coolant,** is engineered to meet these evolving demands. It offers a **reliable, sustainable, and high-performance alternative** to conventional air-cooling methods — ensuring efficient heat transfer, improved hardware lifespan, and reduced operational costs.

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KEY BENEFITS

- **SUPERIOR THERMAL MANAGEMENT:** With high **thermal conductivity** and **direct contact with components,** POWEROIL DC 10 maintains precise temperature control, ensuring optimal operating conditions.
- **SUPPORTS HIGH-DENSITY COMPUTING:** Enables **higher rack densities** and **improves cooling efficiency** without the need for large-scale retrofits or design changes.
- **ENHANCED RELIABILITY:** By reducing thermal stress, the coolant helps **minimize component failure rates** and **extend hardware lifespan.**
- **SUSTAINABLE OPERATIONS:** Immersion cooling drastically improves both **energy** and **water usage efficiency**—key metrics for next-generation data centres.
- **PROCESSOR COMPATIBILITY:** Supports **multiple generations of processors** without the need for hardware modification.
- **REDUCED FOOTPRINT:** **Lowers real estate requirements** through higher rack densities and simplified cooling infrastructure.

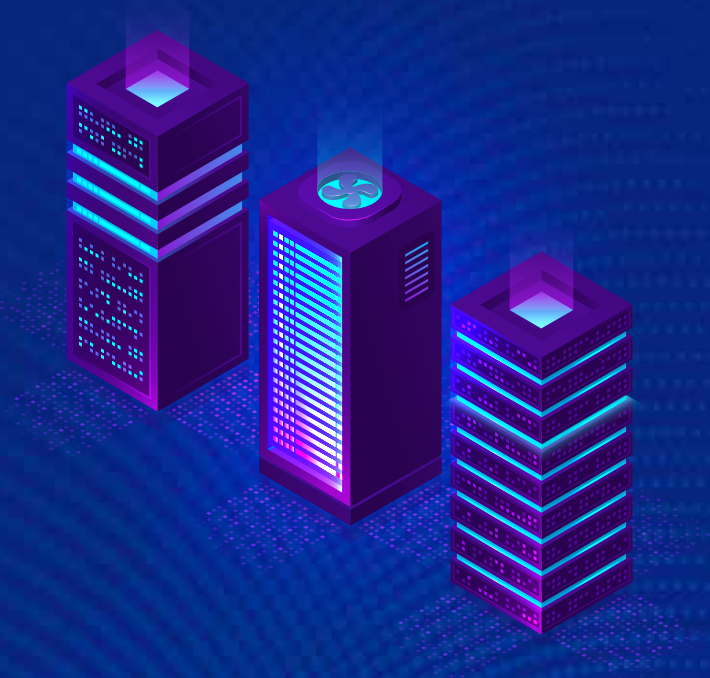
TECHNICAL SUPERIORITY COMPARISON

Metric	Air Cooling	Immersion Cooling (POWEROIL DC 10)
PUE (Power Usage Effectiveness)	1.58	1.05
WUE (Water Usage Effectiveness)	1.8 L/kWh	0 L/kWh
Noise Level	90 dBA	55 dBA

SHAPING THE FUTURE OF DATA CENTRE COOLING

APAR is actively engaged in **testing and developing** advanced immersion coolants tailored for the **data centre ecosystem**—combining d**ecades of experience in dielectric fluids** with a strong **commitment to innovation, efficiency, and reliability.**

Through **POWEROIL DC 10** and upcoming formulations, APAR aims to help the data centre industry achieve **lower energy consumption, reduced environmental impact, and enhanced performance scalability** — powering the digital future responsibly.



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