

TRANSFORMER OILS

We promise to achieve customer satisfaction is always based on the best performance and quality required by the machine or process our products.

Environment Friendly Transformer Oil 식물성 전기 절연유

Item	Grant Trans Oil Bio
Density (kg/l, 15.4°C)	0.92
Viscosity (40°C, mm²/s)	33.8
Flash point (COC, °C)	318
Evaporation Loss (% , 98°C/5hr)	-
Total Acid Number (mgKOH/g)	0.03
Pour point (°C)	-25.0
Dielectric Breakdown Voltage(KV, 2.5mm)	60
Water (ppm)	20
PCBs (ppm)	Not detected
Ready Biodegradability (%)	Min 80



Universal Oils Co., Ltd.
유니버설오일(주)

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Transformer Oils 전기절연유

Universal Grant Trans Oil is Highly refined, inhibited transformer oil for use in severe conditions, such as high ambient temperatures. It should also be used where oxidation resistance and thermally stable insulating oils are needed. Universal Grant Trans Oil is can be used for small general transformers safely without any concern.

유니버설 GrantTrans Oil 은 고도로 정제된 고급 윤활기유를 사용하여 제조된 최고급 전기 절연유로서 고온 환경 등의 가혹한 조건에서 탁월한 성능을 발휘할 수 있도록 제조되었다. 또한 우수한 산화안정성 및 열안정성을 가지고 있어 일반 변압기에서 대용량의 변압기까지 안심하고 안정적으로 사용할 수 있다.

Application 적용

- General and high voltage mass transformer.
- Oil-filled Condensers and Circuit breakers.
- Tap changers and Fuses.

- 일반 및 대용량 변압기
- 오일 충전전 콘덴서와 회로차단기
- 탭 체이저와 각종 퓨즈

Advantages 장점

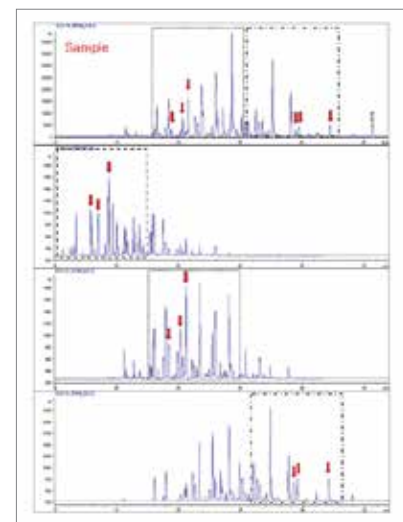
- Excellent stability available for long time operation and high breakdown voltage.
- Maximizes life of oil-immersed switches.
- Excellent conductive heat transfer properties improve cooling of transformer components.
- Prolongs transformer life.
- 우수한 안정성으로 높은 전압등 가혹한 환경에서 장시간 운영 가능
- 유압식 스위치의 수명 최대화
- 우수한 열전달 능력으로 변압기내 냉각효과 극대화
- 변압기 수명 연장



For Domestic Demand 내수용

Item	Grant Trans Oil 1-2	Grant Trans Oil 1-4
Density (kg/1, 15.4°C)	0.83	0.84
Viscosity (40°C,mm²/s)	8.5	8.7
Flash point (COC, °C)	154	158
Evaporation Loss (% , 98°C/5hr)	0.10	0.10
Total Acid Number (mgKOH/g)	0.01	0.10
Pour point (°C)	-42.5	-47.5
Dielectric Breakdown Voltage(KV, 2.5mm)	60	60
Water (ppm)	10	10
PCBs (ppm)	Not detected	Not detected

※ 한국산업표준(Korean Industrial Standard) : KS C 2301



For Export 수출용

Item	Grant Trans Oil U	Grant Trans Oil N
Density (kg/1, 15.4°C)	0.84	0.85
Viscosity (40°C,mm²/s)	8.8	9.2
Flash point (COC, °C)	156	160
Evaporation Loss (% , 98°C/5hr)	0.10	0.10
Total Acid Number (mgKOH/g)	<0.01	<0.01
Pour point (°C)	-50.0	-50.0
Dielectric Breakdown Voltage(KV, 2.5mm)	60	60
Water (ppm)	10	10
PCBs (ppm)	Not detected	Not detected

※ 국제표준(International Standard) : IEC 60296, ASTM D 3487

Dissolved Gas Concentrations - (IEEE C57.104-1991) 용존 가스 관리 농도 (단위 : ppm)

Status	H ₂	CH ₄	C ₂ H ₂	C ₂ H ₄	C ₂ H ₆	CO	CO ₂	TCG
Condition 1	100	120	35	50	65	350	2500	720
Condition 2	101-700	121-400	36-50	51-100	66-100	351-570	2,500-4,000	721-1,920
Condition 3	701-1,800	401-1,000	51-80	101-200	101-150	571-1,400	4001-10,000	1,921-4,630
Condition 4	>1,800	>1,000	>80	>200	>150	>1,400	>10,000	>4,630

※ Condition 1 normal : Transformer is operating satisfactory
 Condition 2 warning : Fault may be present
 Condition 3 abnormal : Faults are probably present
 Condition 4 danger : Continued operation could result in failure of the transformer