

PROYEK : BDPD KELAPA SAWIT KEMENKEU
 PEKERJAAN : INSTALASI TATA UDARA & VENTILASI
 PERIHAL : OUTLINE SPESIFIKASI
 REV / TANGGAL : 00 / 27 AGUSTUS 2024
 DIBUAT OLEH : PT DUTA PRATAMA ENGINEERING

NO.	URAIAN	PERUBAHAN SPESIFIKASI TEKNIS	MERK
A. PERALATAN UTAMA			
1.	AC Split Unit Split VRF Type		
	- Kompressor	: Scroll/Rotary Hermetic (Garansi 3 tahun)	Daikin, Panasonic, Mitsubishi Electric
	- Refrigerant	: R-410 A	
	Untuk VRF Type		
	- Range Kapasitas IU Duct	: 9.000 BTU/h - 100.000 BTU/h (Ceiling)	
	- Range Kapasitas OU	: 45.000 BTU/h - 500.000 BTU/h	
	- Type Indoor Unit	: Duct Type / Cassette Type / Wall Type	
	- Thermostat	: Wired	
	Untuk Split casette, Wall Type		
	- Type Indoor Unit Cassette	: Wired	
	- Type Indoor Unit Wall	: Remote controle	
	- Range Kapasitas Casete	: 9.000 - 50.000 BTU/h	
	- Range Kapasitas wall	: 4.500 - 27.000 BTU/h	
	- Standard	: ARI 210 / 240 - 94 or Others Standard	
	UVC (Option)		
	- Sistem	: Plasma H202 Air Purifier	Claurus Tech, Honeywell, RGF
	- Tipe	: In Duct	
	- Air Flow	: 2 x Kapasitas Indoor	
	- UV	: LED UV Cell	
2.	AC Presisi Data Center		
	- Kompressor	: Scroll/Rotary Hermetic	Climavineta, Stulz, Citec
	- Refrigerant	: R-410 A	
	- Type Indoor Unit	: Raised Floor	
	- Range Kapasitas wall	: 50.000 - 600.000 BTU/h	
3.	Fan		
	a. Axial Fan		Conexa, Kruger, Nicotra, System Air, Vanco
	- Kapasitas 5.000 cfm ke atas	: Adjustable pitch (Garansi 3 tahun)	
	- Kapasitas di bawah 5.000 cfm	: Fixed	
	- Casing	: Long	
	- Drive	: Direct	
	- Motor Rotation	: 1.450 rpm	
	- Class Motor	: IP 55, IE3	
	- Material Fan		
	* Impeller	: Alluminium / Thermoplastic	
	* Shaft	: Carbon steel	
	- Standard	: AMCA	
	- Motor Type	: EC, Silent	
	b. Ceiling Fan		Conexa, Kruger, Nicotra, System Air, Vanco
	- Kapasitas di 50~150 cfm	: Ceiling Councild	
	- Type	: Sirocco	
	- Standard	: AMCA	
B. PIPA, DUCTING & ACCESSORIES			
1.	Isolasi Pipa Refrigerant		Aeroflex, Armaflex, Insulflex, Insultube, K-Flex
	1. Elastomeric :		
	- Closed cell elastomeric		
	- Density $\geq 50 \text{ kg/m}^3$		
	- Thermal Conductivity $\leq 0,036 \text{ W/m.K}$ at 23°C Mean Temperature		
	- Standard	: DIN, ASTM	
	2. Isolasi Pipa Physically Cross-Linked closed cell Polyolefin/Polyethylene		Ab Foam, Thermo Break, Thermotech, Trocellen,
	- Closed cell Polyolefin/Polyethylene foam with factory applied reinforced aluminium foil		
	- Density	: 25 kg/m3 (foam core only)	
	- Thermal Conductivity (ASTM C518)	: Maximum 0.032 W/m. ² K at mean temperature 23°C.	
	- Service Temperature Range		
	- Standard	: ASTM C518, ASTM G21, NFPA 90A, FM Approved	
2	Isolasi Duct Physically cross-linked, closed cell Polyolefin/Polyethylene foam		Ab Foam, Thermo Break, Thermotech, Trocellen,
	- Density	: 25 kg/m3 (foam core only)	
	- Thermal Conductivity (ASTM C518)	: Maximum 0.032 W/m. ² K at mean temperature 23°C.	
	- Service Temperature Range: - 80°C ~ +100°C.	: - 80°C ~ +100°C.	
	- Standard	: ASTM C518, ASTM G21, NFPA 90A, FM Approved	
3	Aluminium Foil		AB Foil, Polyfoil, Topfoil
	- Type	: Double side fire retardant	
	- Berat	: 170 g / m ²	
	- Tebal	: 0.20 mm	
	- Water vapour permeability	: 0.004 g / m ² / 24 hrs	
	- Reflexivity	: 95 %	
4	BJLS		Am/ns, Indolock, Lockform
	- Standard lapisan seng	: SNI 07-2053-2006	
	- Lockforming	: Quality bending test 0	
5	Alternative Ducting PIR (Polyisocyanurate) Type		1st Duct, AB Duct, TD-1 Duct
	- Material	: Polyisocyanurate / Polyurethane kedua sisi dilapisi aluminium	
	- Tebal	: 20 mm	
	- Density	: $\geq 52 \text{ kg/m}^3$	

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6	Adhesive Tape		AB Tape, Nippon Tape
	Material Aluminium	Foil fire retardant	
7	Aluminium Flexible Duct		Masterflex, Modul, Polar, Safeflex
	- Type	Double layer aluminium	
	- Insulation	Glass wool	
	- Density	24 kg / m ³	
	- Tebal	25 mm	
	- Working Pressure	10 " wg	
8	Duct Flexible Connection untuk exhaust fan dalam ruang (indoor type)	Sejenis Kanvas (Garansi umur min. 1 tahun)	Lokal / Standar di Pasaran
9	Duct Flexible Connection untuk exhaust fan luar ruang (outdoor type)	Sejenis Kanvas di kover BJLS 0.6 mm (garansi umur min. 1tahun)	Lokal / Standar di Pasaran
10	Fire Damper	Mengacu keterangan lulus uji dari UPT Lab. Kebakaran DKI, temperature 400 °C	Comfort Aire, Hachindo, Prudent Air, Trox
11	Kisi - kisi		Catura, Hachindo, Polar, Prudent Air
	- Grille, Diffuser & Louver	Powder Coating Finish	
	- Volume Damper	Cat Dasar Hitam	
	- Detail Spek	Lihat Buku Spek	
12	Sound Attenuator	Maksimum tingkat kebisingan adalah 60dBA pada jarak 3 meter dari sumber (fan). Kalau lebih dari 60 dBA adalah kewajiban kontraktor untuk melakukan sound proofing.	Sesuai rekomendasi merk fan yang di tunjuk
14.	Spring vibration dan Rubber		Kinetic, NSV, Tomahawk, Trox
C. Lain-Lain			
1	Panel Maker	- Ketebalan plat minimum 1.5 mm (wall mounted), 2 mm (free standing), cat powder coating - Standard PUIL/SNI atau SPLN, IEC 61869-2 & IEC 61641	Panelindo GN, Pokasa, SMBE
2	Komponen Panel (MCCB & MCB) Kontaktor, Metering & Relay		Schneider, Sutrado, Fibon, Indowire, Mettube, Oriental, Socomec, Luvata.
4	Kabel	- Type : NYY, NYA, BC - Standard : IEC 60502, SNI, SPLN 43-5	Jembo, Extrana, Kabelindo, Supreme
5	Kabel Tahan Api	- Tahan api minimal 2 jam pada suhu 950 °C - Standard : IEC – 60331, BS-6387 CWZ	Betaflam, Pyrotec.
6	Kabel Tray/Kabel Ladder	- Material : Plate baja, Type Leader or Tray,processing Hot Rolled Steel Sheet	Anugerah, Elprima, Spektra
7	Pipa Conduit	- Type : High impact conduit PVC diameter sesuai gambar, lengkap socket, t-does, elbow, clamp, bracket/support, etc	Boss, Clipsal, Legrand, Vinilon