

Data Teknis



TECHNICAL BID EVALUATION / MATRIX

POMPA BOOSTER KAPASITAS 2 M3/SEC		
Booster Pump	Type : Double Suction Volute Pump (Horizontal Type) Quantity : 4 Units Rated Capacity : 2,0 m3/s (172.800 m3/day) Rated Head : 90 m Speed : Approx. 745 rpm to 995 rpm Guarantee Efficiency : Not less than 87 percent at duty point Flange Class : PN16 for Suction, PN 16 for discharge (ISO 7005/2/3. AWWA C 207 Casing : Horizontal split Impeller : Enclosed type Shaft : Replaceable sleeve Bearing : withstand axial and radial loads B/G Lubrication : Grease or oil Coupling : Rigid or Flexible Shaft sealing : Mechanical seal Flange : PN16 (ISO 7005/2/3, AWWA C 207) Casing : Gray iron casting (ASTM A 48 Grade 35) Impeller : Stainless Steel Casting (ASTM A 351) Shaft : stainless steel (ASTM A 582) Brosur : Ada	WILO, ANDRITZ, KSB, SPP PUMPS, HANSUNG

TECHNICAL BID EVALUATION / MATRIX

Motor	Type : 3 phase horizontal wound rotor induction motor Quantity : 4 Units Motor Output : 2.350 Kw (reference) x 3 phase x 6.660 V x 50 Hz Pole : 6P or 8 PS Driving Method : VSD Enclosure : CACA Motor Enclosure Protection : IP 55 Insulation Class : F class Motor Efficiency : Higher than 90% Power Factor : Higher than 80% Slip : Less than 3% Bearing : withstand axial and radial loads B/G lubrication : Grease or oil Heaters for anti-condensation : 240 V AC $\pm$ 10% Terminal Box : for frequency converter use (VSD connection) Installation : Indoor Brosur : Ada Supporting Letter : Ada	TMEIC, XMEC, KSB, MARATHON, HYUNDAI
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TECHNICAL BID EVALUATION / MATRIX

Variable Speed Driver	Capacity : 2,350kW Required Frequency : 25 - 60Hz Electric source : 3Ph x 6,600V x 50Hz Aux. Power Supply : 1Ph x 230V x 50Hz Cooling system : Air fan Cooling : 3Ph x 400V x 50Hz Software : For monitoring and control Efficiency : Min. 96% at 100% speed & 100% load Power factor : 0.95 at load range of 30 ~ 100% Display panel : Integral monitoring Input/output : Digital Audible alarm : Metering / Indicating communication mod : connection to SCADA Enclosure : IP21, stainless steel Control / Operation : On/off/faultLocal/remoteSpeed increase / decrease Brosur : Ada	SCHEINEDER, DANFOSS, DELIXI, INVT KOREA
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TECHNICAL BID EVALUATION / MATRIX

POMPA BOOSTER KAPASITAS 1 M3/SEC		
Booster Pump	Type : Double Suction Volute Pump (Horizontal Type) Quantity : 2 Units Rated Capacity : 1,0 m3/s (86.400 m3/day) Rated Head : 90 m Speed : Approx. 745 rpm to 995 rpm Guarantee Efficiency : Not less than 85 percent at duty point Flange Class : PN16 for Suction, PN 16 for discharge (ISO 7005/2/3. AWWA C 207) Casing : Horizontal split Impeller : Enclosed type Shaft : Replaceable sleeve Bearing : withstand axial and radial loads B/G Lubrication : Grease or oil Coupling : Rigid or Flexible Shaft sealing : Mechanical seal Flange : PN16 (ISO 7005/2/3, AWWA C 207) Casing : Gray iron casting (ASTM A 48 Grade 35) Impeller : Stainless Steel Casting (ASTM A 351) Shaft : stainless steel (ASTM A 582) Brosur : Ada	WILO, ANDRITZ, KSB, SPP PUMPS, HANSUNG

TECHNICAL BID EVALUATION / MATRIX

Motor	Type : 3 phase horizontal wound rotor induction motor Quantity : 2 Units Motor Output : 1.250 Kw (reference) x 3 phase x 6.600 V x 50 Hz Pole : 6P (reference) Driving Method : VSD Enclosure : CACA Motor Enclosure Protection : IP 55 Insulation Class : F class Motor Efficiency : Higher than 90% Power Factor : Higher than 80% Slip : Less than 3% Bearing : withstand axial and radial loads B/G lubrication : Grease or oil Heaters for anti-condensation : 240 V AC $\pm$ 10% Terminal Box : for frequency converter use (VSD connection) Installation : Indoor Brosur : Ada Supporting Letter : Ada	TMEIC, XMEC, KSB, MARATHON, HYUNDAI
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Kriteria Pelaksanaan Pekerjaan

Variable Speed Driver	Capacity : 1,250kW Required Frequency : 25 – 60Hz Electric source : 3Ph x 6,600V x 50Hz Aux. Power Supply : 1Ph x 230V x 50Hz Cooling system : Air fan Cooling : 3Ph x 400V x 50Hz Software : For monitoring and control Efficiency : Min. 96% at 100% speed & 100% load Power factor : 0.95 at load range of 30 ~ 100% Display panel : Integral monitoring Input/output : Digital Audible alarm : Metering / Indicating communication mod : connection to SCADA Enclosure : IP21, stainless steel Control / Operation : On/off/faultLocal/remoteSpeed increase/decrease Brosur : Ada	SCHEINER, DANFOSS, DELIXI, INVT KOREA
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GENERAL SPESIFIKASI

Mechanical Works & Commissioning Requirements

The Contractor shall supply, install, test, start up, and commission **booster pumps, valves, cranes, air chambers, and flowmeters**, including operator training during the maintenance period.

 *Ref: pp. 440–441*

The Contractor is responsible for providing **all labor, materials, equipment, tools, safety gear, transportation, and testing facilities** required to complete the mechanical works.

 *Ref: p. 440*

All equipment must comply with the **latest applicable international and national standards**; where conflicts occur, **the more stringent requirement shall govern**.

 *Ref: p. 440*

Equipment manufacturers must demonstrate:

- Minimum **five (5) similar installations**
- At least **five (5) years of successful operation**
- Proven performance under similar conditions

 *Ref: pp. 440–441*

Contract drawings are diagrammatic; the Contractor shall prepare and submit **general arrangement, shop, and construction drawings** and is responsible for coordination with other disciplines.

 *Ref: pp. 441–442*

GENERAL SPESIFIKASI

All equipment shall be **new**, of standard manufacture, and from manufacturers experienced in similar works; modified equipment must fully meet performance specifications.

 *Ref: p. 441*

Any deviation from contract drawings or specifications requires **prior written approval** from the Engineer, at the Contractor's cost.

 *Ref: p. 441*

Vendor documentation must include **data sheets, performance curves, design calculations, drawings, manuals, spare parts lists, and Inspection & Test Plans (ITP)**; procurement without approval is prohibited.

 *Ref: pp. 442–443*

Installation shall strictly follow **manufacturer recommendations and good engineering practice**, supervised by factory-trained representatives when required.

 *Ref: pp. 452–453*

Safety guards, labeling (English & Indonesian), corrosion protection, proper storage, and packaging are mandatory to ensure safe operation and long-term reliability.

 *Ref: pp. 446–457*

GENERAL SPESIFIKASI

Mandatory inspections and tests include:

- Factory Acceptance Test (FAT)
- On-site delivery inspection
- Installation inspection
- Start-up tests
- Commissioning

 *Ref: pp. 462–464*

No equipment shall be delivered to site without **successful FAT**, unless formally waived by the Employer.

 *Ref: p. 462*

Commissioning shall be conducted in accordance with an **approved commissioning plan**, with full-load operation and retesting until performance meets specifications.

 *Ref: p. 464*

Manufacturer-led training shall be provided for operators, **minimum 8 hours per equipment**, covering operation and maintenance.

 *Ref: pp. 454–455*

All equipment shall be covered by a **one-year warranty** from the Taking Over Certificate, with **single-source responsibility** by the manufacturer.

 *Ref: p. 445*

GENERAL SPESIFIKASI

Quality Assurance Requirements

- Equipment must be **new**, from an **experienced manufacturer** with:
 - Minimum **5 years successful operation** in similar installations
 - Reference installations with verifiable performance
 - **ISO 9001 certification** (p.467)