ঢাকা পানি সরবরাহ ও পয়ঃ নিষ্কাশন কর্তৃপক্ষ

নির্বাহী প্রকৌশলীর কার্যালয়

সংগ্রহ বিভাগ-২, ওয়াসা ভবন (৬ষ্ঠ তলা),
৯৮, কাজী নজরুল ইসলাম এভিনিউ, কাওরান বাজার, ঢাকা-১২১৫।

মালামাল পরিদর্শন ও টেষ্ট রিপোর্টের উপর যৌথ পরিদর্শন কমিটির মতামত

চুক্তি নং-	ঃ	৪৬.০৫.০০০০.৪২৮.০৭.০৩৪.২৩/২০২৩-২৪/eGP-সি২০	তারিখ ঃ ০৮/০৪/২০২৪ ইং।
সরবরাহ আদেশ স্মারক নং-	ঃ	৪৬.০৫.০০০০.৪২৮.০৭.০৩৪.২০২৩-৮৪৫,	তারিখ ঃ ২৪/০৪/২০২৪ ইং।
কাজের নাম	ঃ	ঢাকা ওয়াসার এফ. এম বিভাগ এর জন্য ৫০ ঘনমিটার/ঘন্টা ১১০ মিটার হেড সাব-মার্সিবল পাম্প-মোটর ও ৫০ ঘনমিটার/ঘন্টা ১২৫ মিটার হেড সাব-মার্সিবল পাম্প-মোটর সংগ্রহ কাজ।	
সরবরাহকারীর নাম	ঃ	মেসার্স ইউনাইটেড ট্রেড সেন্টার, বাইতুশ শরফ কমপ্লেক্স, ১৪৯/এ, এয়ারপোর্ট রোড, ফার্মগেট, ঢাকা-১০০০, বাংলাদেশ।	
ক্রয়কারী বিভাগের নাম	ঃ	সংগ্রহ বিভাগ-২, ঢাকা ওয়াসা।	
ব্যবহারকারী বিভাগের নাম	ঃ	ঢাকা ওয়াসার এফ. এম. বিভাগ।	
সরবরাহের স্থান	ঃ	ভান্ডার বিভাগ, ঢাকা ওয়াসা।	
সরবরাহের তারিখ	ঃ	২০/১০/২০২৪ ইং।	যৌথ পরিদর্শনের তারিখঃ ১০/১১/২০২৪ ইং।

ক্র. নং ঃ	মালামালের বিবরণ	চুক্তি অনুযায়ী মালামালের পরিমান	একই কিস্তিতে দেয় মালামালের পরিমান
১।	**50 m ^{3}/hr. 110 meter head Submersible Pump**	২৫ (পঁচিশ) সেট	২৫ (পঁচিশ) সেট
২।	**50 m ^{3}/hr. 110 meter head Submersible Motor**	২৫ (পঁচিশ) সেট	২৫ (পঁচিশ) সেট
৩।	**50 m ^{3}/hr. 125 meter head Submersible Pump**	২৫ (পঁচিশ) সেট	২৫ (পঁচিশ) সেট
৪।	**50 m ^{3}/hr. 125 meter head Submersible Motor**	২৫ (পঁচিশ) সেট	২৫ (পঁচিশ) সেট

সরবরাহকৃত 50 m ^{3}/hr. 110 meter head Submersible Pump সমূহের তালিকাঃ

SL	Pump Serial	SL	Pump Serial	SL	Pump Serial	SL	Pump Serial	SL	Pump Serial
01	PS24270640	06	PS24270645	11	PS24270650	16	PS24270655	21	PS24270660
02	PS24270641	07	PS24270646	12	PS24270651	17	PS24270656	22	PS24270661
03	PS24270642	08	PS24270647	13	PS24270652	18	PS24270657	23	PS24270662
04	PS24270643	09	PS24270648	14	PS24270653	19	PS24270658	24	PS24270663
05	PS24270644	10	PS24270649	15	PS24270654	20	PS24270659	25	PS24270664

সরবরাহকৃত 50 m ^{3}/hr. 110 meter head Submersible Motor সমূহের তালিকাঃ

SL	Motor Serial	SL	Motor Serial	SL	Motor Serial	SL	Motor Serial	SL	Motor Serial
01	MR2224261071	06	MR2224261055	11	MR2224261057	16	MR2224261053	21	MR2224261060
02	MR2224261056	07	MR2224261066	12	MR2224261062	17	MR2224261063	22	MR2224261061
03	MR2224261065	08	MR2224261076	13	MR2224261068	18	MR2224261059	23	MR2224261074
04	MR2224261075	09	MR2224261073	14	MR2224261070	19	MR2224261064	24	MR2224261054
05	MR2224261072	10	MR2224261067	15	MR2224261069	20	MR2224261052	25	MR2224261058

সরবরাহকৃত 50 m ^{3}/hr. 125 meter head Submersible Pump সমূহের তালিকাঃ

SL	Pump Serial	SL	Pump Serial	SL	Pump Serial	SL	Pump Serial	SL	Pump Serial
01	PS24270665	06	PS24270670	11	PS24270675	16	PS24270680	21	PS24270685
02	PS24270666	07	PS24270671	12	PS24270676	17	PS24270681	22	PS24270686
03	PS24270667	08	PS24270672	13	PS24270677	18	PS24270682	23	PS24270687
04	PS24270668	09	PS24270673	14	PS24270678	19	PS24270683	24	PS24270688
05	PS24270669	10	PS24270674	15	PS24270679	20	PS24270684	25	PS24270689

সরবরাহকৃত 50 m ^{3}/hr. 125 meter head Submersible Motor সমূহের তালিকাঃ

SL	Motor Serial	SL	Motor Serial	SL	Motor Serial	SL	Motor Serial	SL	Motor Serial
01	MR26524261154	06	MR26524261158	11	MR26524261149	16	MR26524261150	21	MR26524261160
02	MR26524261157	07	MR26524261168	12	MR26524261146	17	MR26524261156	22	MR26524261162
03	MR26524261159	08	MR26524261163	13	MR26524261164	18	MR26524261161	23	MR26524261169
04	MR26524261145	09	MR26524261153	14	MR26524261166	19	MR26524261147	24	MR26524261167
05	MR26524261165	10	MR26524261151	15	MR26524261155	20	MR26524261152	25	MR26524261148

যৌথ পরিদর্শন কমিটি কর্তৃক সমুদয় মালামাল পরিদর্শন করা হইল এবং তা বাহ্যিকভাবে সঠিক পাওয়া গেল। বাহ্যিকভাবে সঠিক পাওয়ায় টেষ্টের জন্য নমুনা সংগ্রহ করা হল। এম.আই.এস.টি হইতে প্রাপ্ত টেষ্ট রিপোর্টের ভিত্তিতে সমুদয় মালামাল চূড়ান্তভাবে গ্রহণ/বাতিলের সুপারিশ করা হইবে।

10.11.24
মোঃ মাজহারুল ইসলাম
নির্বাহী প্রকৌশলী
সংগ্রহ বিভাগ-২,
ঢাকা ওয়াসা ও সদস্য-সচিব,
যৌথ পরিদর্শন কমিটি।

মোঃ ছরোয়ার হোসেন খান
নির্বাহী প্রকৌশলী
ভান্ডার বিভাগ,
ঢাকা ওয়াসা ও সদস্য,
যৌথ পরিদর্শন কমিটি।

লেঃ কর্ণেল মোঃ মাকসুদুল (অবঃ)
প্রধান নিরাপত্তা কর্মকর্তা,
নিরাপত্তা ও গোয়েন্দা বিভাগ,
ঢাকা ওয়াসা ও সদস্য, যৌথ
পরিদর্শন কমিটি।

শেখ আরিফ রহমান জিতু
নির্বাহী প্রকৌশলী,
এফ এম বিভাগ-২,
ঢাকা ওয়াসা ও সদস্য,
যৌথ পরিদর্শন কমিটি।

মোঃ আঃ লতিফ
তত্ত্বাবধায়ক প্রকৌশলী
আর.পি.ই. এন্ড.এম সার্কেল,
ঢাকা ওয়াসা ও আহ্বায়ক,
যৌথ পরিদর্শন কমিটি।

MIST (ME) REF : 23.12.0902.006.021.008.04.12.2024 Date: 04/12/2024; MIST হতে প্রাপ্ত টেষ্ট রিপোর্টের ভিত্তিতে উপরে উল্লেখিত তালিকার পাম্প মোটর সমূহ যৌথ পরিদর্শন কমিটি কর্তৃক চূড়ান্তভাবে গ্রহণের সুপারিশ করা হল।

05.12.2024
মোঃ মাজহারুল ইসলাম
নির্বাহী প্রকৌশলী
সংগ্রহ বিভাগ-২,
ঢাকা ওয়াসা ও সদস্য-সচিব,
যৌথ পরিদর্শন কমিটি।

মোঃ ছরোয়ার হোসেন খান
নির্বাহী প্রকৌশলী
ভান্ডার বিভাগ,
ঢাকা ওয়াসা ও সদস্য,
যৌথ পরিদর্শন কমিটি।

লেঃ কর্ণেল মোঃ মাকসুদুল (অবঃ)
প্রধান নিরাপত্তা কর্মকর্তা,
নিরাপত্তা ও গোয়েন্দা বিভাগ,
ঢাকা ওয়াসা ও সদস্য,
যৌথ পরিদর্শন কমিটি।

শেখ আরিফ রহমান জিতু
নির্বাহী প্রকৌশলী,
এফ এম বিভাগ-২,
ঢাকা ওয়াসা ও সদস্য,
যৌথ পরিদর্শন কমিটি।

মোঃ আঃ লতিফ
তত্ত্বাবধায়ক প্রকৌশলী
আর.পি.ই. এন্ড.এম সার্কেল,
ঢাকা ওয়াসা ও আহ্বায়ক,
যৌথ পরিদর্শন কমিটি।

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

TEST REPORT FOR SUBMERSIBLE PUMP

নির্বাহী প্রকৌশলীর দপ্তর
ডাইরী নং 202
তাং 04/12/2024
সংগ্রহ বিভাগ-২, ঢাকা ওয়াসা

Date: 04-12-2024

CLIENT	:	**Executive Engineer** **Shongroh Bivag - 2** **Dhaka Wasa, Dhaka**
CLIENT'S REF	:	**46.05.0000.428.07.034.2023-441** **Date: 10-11-2024**
MIST (ME) REF	:	**23.12.0902.006.021.008.04.12.2024**
NAME OF SUPPLIER	:	**M/S United Trade Center**

TEST CONDUCTED BY
DEPARTMENT OF MECHANICAL ENGINEERING
MILITARY INSTITUTE OF SCIENCE AND TECHNOLOGY
DHAKA-1216

SAMPLES SUPPLIED : Submersible Pump
125.00 m (410.10 ft)
50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)
Pump No: PS 24270669
Motor No: MR 26524261165

Submersible Pump
125.00 m (410.10 ft)
50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)
Pump No: PS 24270667
Motor No: MR 26524261159

Submersible Pump
125.00 m (410.10 ft)
50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)
Pump No: PS 24270671
Motor No: MR 26524261168

Submersible Pump
110.00 m (360.89 ft)
50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)
Pump No: PS 24270649
Motor No: MR 2224261067

Submersible Pump
110.00 m (360.89 ft)
50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)
Pump No: PS 24270656
Motor No: MR 2224261063

Submersible Pump
110.00 m (360.89 ft)
50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)
Pump No: PS 24270652
Motor No: MR 2224261068

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

RESULT SHEET

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270669	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-1
Motor No:	MR 26524261165	Pump ID:	20241118-0570
Date of Test:	18-11-2024	Ambient Temperature:	12°C
Relative Humidity:	47%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

No	Discharge (m^3/hr)	Total Head (m)	Input Power (kW)	Combined Efficiency (%)
1	44.11	149.62	27.30	65.86
2	47.36	142.59	27.41	67.12
3	50.01	135.56	27.31	67.63
4	52.28	128.75	27.61	66.41
5	54.10	121.51	27.39	65.38
6	55.46	114.69	26.92	64.37
7	57.37	107.45	26.84	62.57
8	58.85	100.42	26.51	60.73
9	61.80	86.37	25.90	56.14
10	62.80	79.34	25.50	53.23

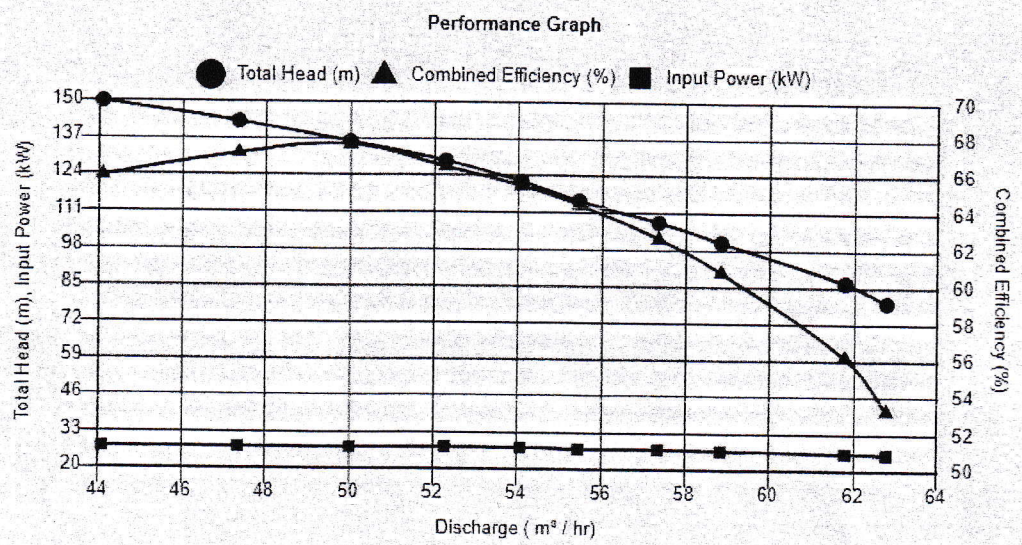
1. At maximum combined efficiency of 67.63%, the pump delivered 50.01 m^3/hr (0.49 ft^3/sec, 833.67 l/min) discharge, at a total head of 135.56 m (444.76 ft) with an input power of 27.31 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 135.59 m (444.86 ft) of total head with 67.63% combined efficiency.
3. At 125.00 m (410.10 ft) rated head, the pump discharged 53.22 m^3/hr (0.52 ft^3/sec, 887.22 l/min) with 65.88% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

PERFORMANCE CURVE

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270669	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-1
Motor No:	MR 26524261165	Pump ID:	20241118-0570
Date of Test:	18-11-2024	Ambient Temperature:	12°C
Relative Humidity:	47%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC



1. At maximum combined efficiency of 67.63%, the pump delivered 50.01 m^3/hr (0.49 ft^3/sec, 833.67 l/min) discharge, at a total head of 135.56 m (444.76 ft) with an input power of 27.31 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 135.59 m (444.86 ft) of total head with 67.63% combined efficiency.
3. At 125.00 m (410.10 ft) rated head, the pump discharged 53.22 m^3/hr (0.52 ft^3/sec, 887.22 l/min) with 65.88% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

TEST OF DIFFERENT PARAMETERS

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270669	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-1
Motor No:	MR 26524261165	Pump ID:	20241118-0570
Date of Test:	18-11-2024	Ambient Temperature:	12°C
Relative Humidity:	47%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

Pump	
Pump Bowl Diameter	145 mm
Rated Head	125.00 m
Rated Discharge	50.00 m^3/hr
Speed (No Load)	3009 rpm
No of Stages	16
Installation	Vertical Installation
Non-return Valve	Built in with the pump
Cable Guards and Channels	2X Cable guard fitted outside the pomp bowl
Motor	
Power Supply	AC, 3-Phase, 400±2 V, 50Hz
Power Factor	0.8
Current at Rated Discharge	56.10 amp
Rated Power	27.31 kW
Starting Method	Star-Delta Starter
Motor Enclosure	IP 68
Cable Size (with insulation)	3X36.32 mm^2
Cable Size (without insulation)	3X 18.47 mm^2
Cable Length	2X 4.25 m

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

RESULT SHEET

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270667	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-2
Motor No:	MR 26524261159	Pump ID:	20241118-0571
Date of Test:	18-11-2024	Ambient Temperature:	21°C
Relative Humidity:	42%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

No	Discharge (m^3/hr)	Total Head (m)	Input Power (kW)	Combined Efficiency (%)
1	45.58	148.21	27.80	66.20
2	48.22	142.59	28.02	66.85
3	51.24	135.57	28.16	67.20
4	53.26	129.59	28.24	66.58
5	54.85	125.03	28.37	65.85
6	55.99	121.51	28.43	65.19
7	57.62	114.48	28.00	64.18
8	58.85	107.45	27.50	62.64
9	62.03	93.40	27.15	58.13
10	63.53	86.37	26.85	55.67
11	64.60	79.34	26.52	52.65

1. At maximum combined efficiency of 67.20%, the pump delivered 51.24 m^3/hr (0.50 ft^3/sec, 854.17 l/min) discharge, at a total head of 135.57 m (444.77 ft) with an input power of 28.16 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 138.45 m (454.23 ft) of total head with 67.05% combined efficiency.
3. At 125.00 m (410.10 ft) rated head, the pump discharged 54.86 m^3/hr (0.54 ft^3/sec, 914.49 l/min) with 65.84% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept

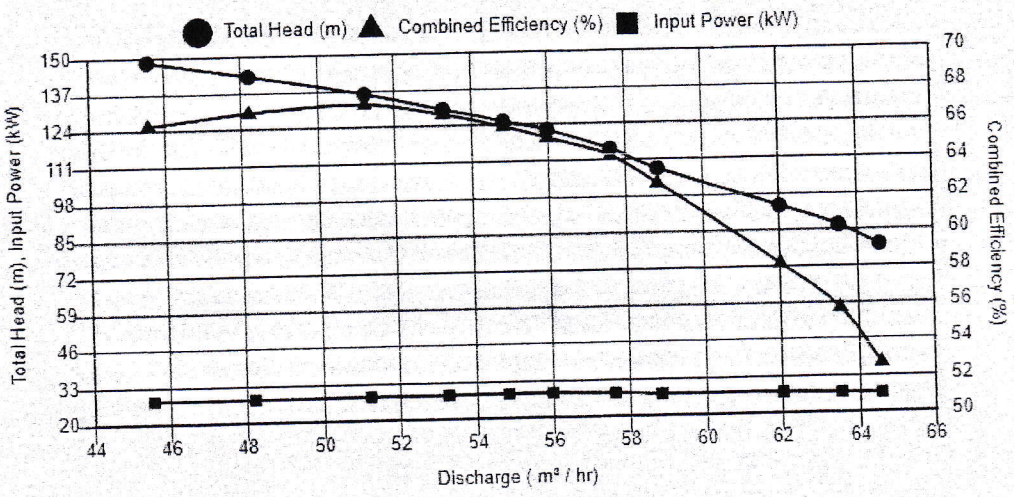
MD ANISUR RAHMAN
Brigadier General
Head of Mechanical Engineering Dept.
MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

PERFORMANCE CURVE

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270667	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-2
Motor No:	MR 26524261159	Pump ID:	20241118-0571
Date of Test:	18-11-2024	Ambient Temperature:	21°C
Relative Humidity:	42%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

Performance Graph



1. At maximum combined efficiency of 67.20%, the pump delivered 51.24 m^3/hr (0.50 ft^3/sec, 854.17 l/min) discharge, at a total head of 135.57 m (444.77 ft) with an input power of 28.16 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 138.45 m (454.23 ft) of total head with 67.05% combined efficiency.
3. At 125.00 m (410.10 ft) rated head, the pump discharged 54.86 m^3/hr (0.54 ft^3/sec, 914.49 l/min) with 65.84% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

TEST OF DIFFERENT PARAMETERS

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270667	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-2
Motor No:	MR 26524261159	Pump ID:	20241118-0571
Date of Test:	18-11-2024	Ambient Temperature:	21°C
Relative Humidity:	42%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

Pump	
Pump Bowl Diameter	145 mm
Rated Head	125.00 m
Rated Discharge	50.00 m^3/hr
Speed (No Load)	3012 rpm
No of Stages	16
Installation	Vertical Installation
Non-return Valve	Built in with the pump
Cable Guards and Channels	2X Cable guard fitted outside the pomp bowl
Motor	
Power Supply	AC, 3-Phase, 400±2 V, 50Hz
Power Factor	0.8
Current at Rated Discharge	58.01 amp
Rated Power	28.16 kW
Starting Method	Star-Delta Starter
Motor Enclosure	IP 68
Cable Size (with insulation)	3X 36.32 mm^2
Cable Size (without insulation)	3X18.47 mm^2
Cable Length	2X 4.25 m

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

RESULT SHEET

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270671	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-3
Motor No:	MR 26524261168	Pump ID:	20241118-0572
Date of Test:	18-11-2024	Ambient Temperature:	20°C
Relative Humidity:	43%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

No	Discharge (m^3/hr)	Total Head (m)	Input Power (kW)	Combined Efficiency (%)
1	44.04	149.62	27.23	65.92
2	46.65	142.59	27.16	66.72
3	50.03	134.86	27.25	67.45
4	51.64	128.54	27.04	66.87
5	52.71	125.02	27.06	66.34
6	54.53	117.99	26.80	65.40
7	55.60	114.48	26.78	64.75
8	57.67	107.45	26.56	63.56
9	59.67	100.43	26.44	61.74
10	62.75	86.37	26.13	56.50
11	64.28	79.34	25.71	54.04

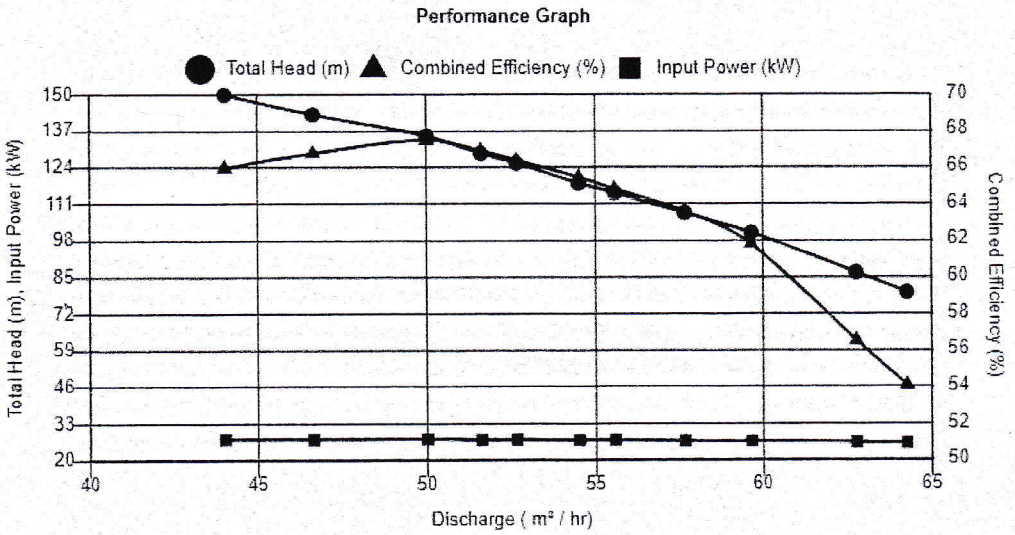
1. At maximum combined efficiency of 67.45%, the pump delivered 50.03 m^3/hr (0.49 ft^3/sec, 834.00 l/min) discharge, at a total head of 134.86 m (442.45 ft) with an input power of 27.25 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 134.98 m (442.84 ft) of total head with 67.44% combined efficiency.
3. At 125.00 m (410.10 ft) rated head, the pump discharged 52.72 m^3/hr (0.52 ft^3/sec, 878.79 l/min) with 66.34% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

PERFORMANCE CURVE

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270671	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-3
Motor No:	MR 26524261168	Pump ID:	20241118-0572
Date of Test:	18-11-2024	Ambient Temperature:	20°C
Relative Humidity:	43%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC



1. At maximum combined efficiency of 67.45%, the pump delivered 50.03 m^3/hr (0.49 ft^3/sec, 834.00 l/min) discharge, at a total head of 134.86 m (442.45 ft) with an input power of 27.25 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 134.98 m (442.84 ft) of total head with 67.44% combined efficiency.
3. At 125.00 m (410.10 ft) rated head, the pump discharged 52.72 m^3/hr (0.52 ft^3/sec, 878.79 l/min) with 66.34% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

TEST OF DIFFERENT PARAMETERS

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	125.00 m (410.10 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270671	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-3
Motor No:	MR 26524261168	Pump ID:	20241118-0572
Date of Test:	18-11-2024	Ambient Temperature:	20°C
Relative Humidity:	43%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

Pump	
Pump Bowl Diameter	145 mm
Rated Head	125.00 m
Rated Discharge	50.00 m^3/hr
Speed (No Load)	3010 rpm
No of Stages	16
Installation	Vertical Installation
Non-return Valve	Built in with the pump
Cable Guards and Channels	2X Cable guard fitted outside the pomp bowl
Motor	
Power Supply	AC, 3-Phase, 400±2 V, 50Hz
Power Factor	0.8
Current at Rated Discharge	56.49 amp
Rated Power	27.25 kW
Starting Method	Star-Delta Starter
Motor Enclosure	IP 68
Cable Size (with insulation)	3X36.32 mm^2
Cable Size (without insulation)	3X18.47 mm^2
Cable Length	2X 4.25 m

Prepared By	**Approved By**
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

RESULT SHEET

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270649	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-4
Motor No:	MR 2224261067	Pump ID:	20241119-0573
Date of Test:	19-11-2024	Ambient Temperature:	26°C
Relative Humidity:	59%	Water Temperature:	18°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

No	Discharge (m^3/hr)	Total Head (m)	Input Power (kW)	Combined Efficiency (%)
1	43.17	132.04	23.80	65.25
2	45.11	128.53	23.50	67.21
3	46.45	125.02	23.34	67.78
4	48.11	121.36	23.41	67.94
5	50.01	116.93	23.43	67.99
6	50.87	114.62	23.45	67.73
7	53.49	107.45	23.43	66.82
8	55.80	100.42	23.24	65.68
9	57.55	93.39	22.96	63.77
10	59.45	86.36	22.80	61.35
11	61.48	79.34	22.65	58.66
12	63.00	72.34	22.32	55.62

1. At maximum combined efficiency of 67.99%, the pump delivered 50.01 m^3/hr (0.49 ft^3/sec, 833.67 l/min) discharge, at a total head of 116.93 m (383.64 ft) with an input power of 23.43 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 116.96 m (383.73 ft) of total head with 67.98% combined efficiency.
3. At 110.00 m (360.89 ft) rated head, the pump discharged 52.56 m^3/hr (0.52 ft^3/sec, 876.12 l/min) with 67.15% combined efficiency.

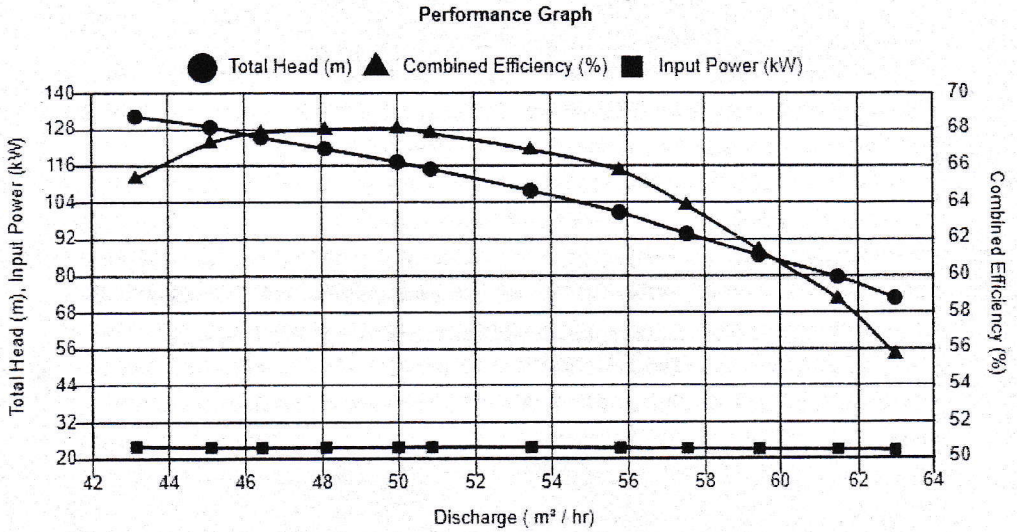
Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept

MD ANISUR RAHMAN
Brigadier General
Head of Mechanical Engineering Dept.
MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

PERFORMANCE CURVE

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270649	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-4
Motor No:	MR 2224261067	Pump ID:	20241119-0573
Date of Test:	19-11-2024	Ambient Temperature:	26°C
Relative Humidity:	59%	Water Temperature:	18°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC



1. At maximum combined efficiency of 67.99%, the pump delivered 50.01 m^3/hr (0.49 ft^3/sec, 833.67 l/min) discharge, at a total head of 116.93 m (383.64 ft) with an input power of 23.43 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 116.96 m (383.73 ft) of total head with 67.98% combined efficiency.
3. At 110.00 m (360.89 ft) rated head, the pump discharged 52.56 m^3/hr (0.52 ft^3/sec, 876.12 l/min) with 67.15% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

TEST OF DIFFERENT PARAMETERS

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270649	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-4
Motor No:	MR 2224261067	Pump ID:	20241119-0573
Date of Test:	19-11-2024	Ambient Temperature:	26°C
Relative Humidity:	59%	Water Temperature:	18°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

Pump	
Pump Bowl Diameter	145 mm
Rated Head	110.00 m
Rated Discharge	50.00 m^3/hr
Speed (No Load)	3010 rpm
No of Stages	14
Installation	Vertical Installation
Non-return Valve	Built in with the pump
Cable Guards and Channels	2X Cable guard fitted outside the pomp bowl
Motor	
Power Supply	AC, 3-Phase, 400±2 V, 50Hz
Power Factor	0.8
Current at Rated Discharge	47.67 amp
Rated Power	23.74 kW
Starting Method	Star-Delta Starter
Motor Enclosure	IP 68
Cable Size (with insulation)	3X36.32 mm^2
Cable Size (without insulation)	3X18.47 mm^2
Cable Length	2X 4.25 m

Prepared By	**Approved By**
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

RESULT SHEET

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270656	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-5
Motor No:	MR 2224261063	Pump ID:	20241119-0574
Date of Test:	19-11-2024	Ambient Temperature:	27°C
Relative Humidity:	50%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

No	Discharge (m^3/hr)	Total Head (m)	Input Power (kW)	Combined Efficiency (%)
1	44.15	132.04	23.96	66.28
2	45.42	128.53	23.79	66.85
3	46.88	125.02	23.75	67.22
4	48.33	121.50	23.75	67.36
5	50.05	117.29	23.66	67.59
6	51.15	114.47	23.70	67.30
7	53.51	107.45	23.76	65.92
8	56.21	100.42	23.88	64.39
9	58.60	93.39	23.84	62.54
10	60.23	86.37	23.36	60.66
11	61.55	79.34	23.16	57.44
12	63.28	72.31	23.22	53.68

1. At maximum combined efficiency of 67.59%, the pump delivered 50.05 m^3/hr (0.49 ft^3/sec, 834.33 l/min) discharge, at a total head of 117.29 m (384.79 ft) with an input power of 23.66 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 117.41 m (385.21 ft) of total head with 67.58% combined efficiency.
3. At 110.00 m (360.89 ft) rated head, the pump discharged 52.65 m^3/hr (0.52 ft^3/sec, 877.72 l/min) with 66.42% combined efficiency.

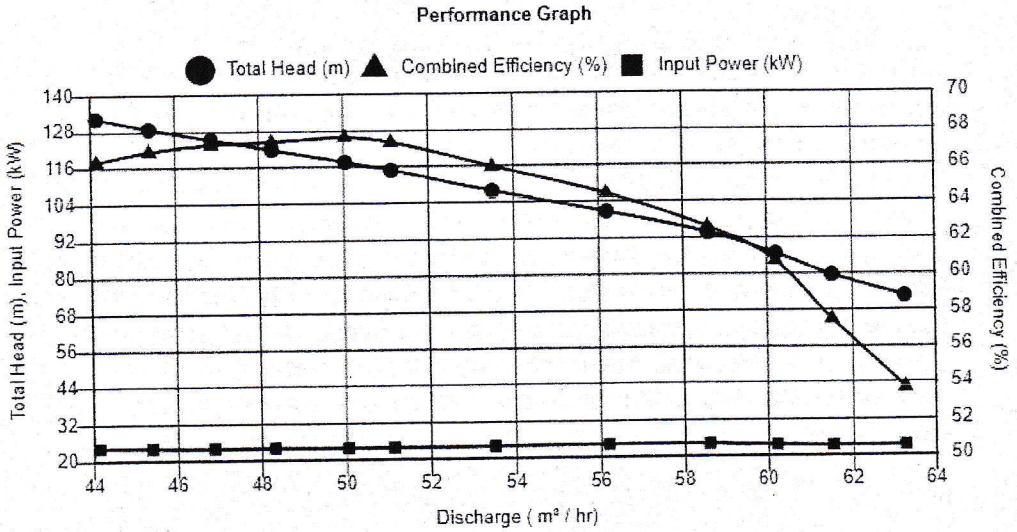
Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept

MD ANISUR RAHMAN
Brigadier General
Head of Mechanical Engineering Dept.
MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

PERFORMANCE CURVE

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270656	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-5
Motor No:	MR 2224261063	Pump ID:	20241119-0574
Date of Test:	19-11-2024	Ambient Temperature:	27°C
Relative Humidity:	50%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC



1. At maximum combined efficiency of 67.59%, the pump delivered 50.05 m^3/hr (0.49 ft^3/sec, 834.33 l/min) discharge, at a total head of 117.29 m (384.79 ft) with an input power of 23.66 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 117.41 m (385.21 ft) of total head with 67.58% combined efficiency.
3. At 110.00 m (360.89 ft) rated head, the pump discharged 52.65 m^3/hr (0.52 ft^3/sec, 877.72 l/min) with 66.42% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

TEST OF DIFFERENT PARAMETERS

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270656	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-5
Motor No:	MR 2224261063	Pump ID:	20241119-0574
Date of Test:	19-11-2024	Ambient Temperature:	27°C
Relative Humidity:	50%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

Pump	
Pump Bowl Diameter	145 mm
Rated Head	110.00 m
Rated Discharge	50.00 m^3/hr
Speed (No Load)	3008 rpm
No of Stages	14
Installation	Vertical Installation
Non-return Valve	Built in with the pump
Cable Guards and Channels	2X Cable guard fitted outside the pomp bowl
Motor	
Power Supply	AC, 3-Phase, 400±2 V, 50Hz
Power Factor	0.8
Current at Rated Discharge	47.76 amp
Rated Power	23.76 kW
Starting Method	Star-Delta Starter
Motor Enclosure	IP 68
Cable Size (with insulation)	3X36.32 mm^2
Cable Size (without insulation)	3X18.47 mm^2
Cable Length	2X 4.25 m

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept

MD ANISUR RAHMAN
Brigadier General
Head of Mechanical Engineering Dept.
MIST, Mirpur Cantonment, Dhaka

Consultancy, Advisory and Testing Services (CATS)
Department of Mechanical Engineering (ME)
Military Institute of Science and Technology (MIST)

RESULT SHEET

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270652	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-6
Motor No:	MR 2224261068	Pump ID:	20241119-0575
Date of Test:	19-11-2024	Ambient Temperature:	28°C
Relative Humidity:	40%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

No	Discharge (m^3/hr)	Total Head (m)	Input Power (kW)	Combined Efficiency (%)
1	43.42	134.15	23.85	66.53
2	45.11	128.53	23.61	66.90
3	48.17	121.50	23.78	67.05
4	49.47	117.99	23.65	67.23
5	51.01	114.47	23.59	67.43
6	52.26	110.96	23.51	67.19
7	55.49	100.42	23.45	64.73
8	57.30	93.39	23.24	62.73
9	59.35	86.36	23.01	60.68
10	61.12	79.34	22.72	58.14
11	62.57	72.31	22.52	54.73

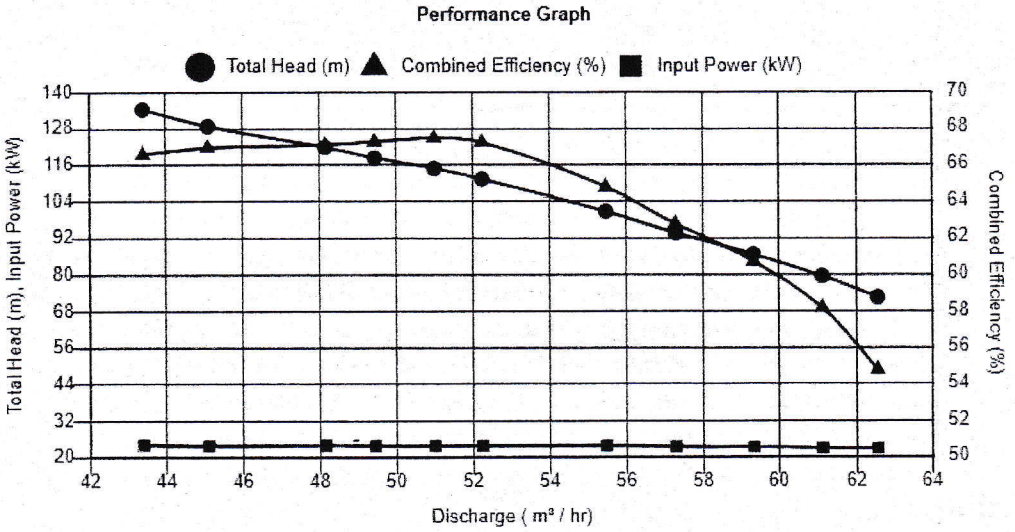
1. At maximum combined efficiency of 67.43%, the pump delivered 51.01 m^3/hr (0.50 ft^3/sec, 850.34 l/min) discharge, at a total head of 114.47 m (375.57 ft) with an input power of 23.59 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 116.78 m (383.13 ft) of total head with 67.30% combined efficiency.
3. At 110.00 m (360.89 ft) rated head, the pump discharged 52.60 m^3/hr (0.52 ft^3/sec, 876.87 l/min) with 67.13% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept

MD ANISUR RAHMAN
Brigadier General
Head of Mechanical Engineering Dept.
MIST, Mirpur Cantonment, Dhaka

PERFORMANCE CURVE

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270652	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-6
Motor No:	MR 2224261068	Pump ID:	20241119-0575
Date of Test:	19-11-2024	Ambient Temperature:	28°C
Relative Humidity:	40%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC



1. At maximum combined efficiency of 67.43%, the pump delivered 51.01 m^3/hr (0.50 ft^3/sec, 850.34 l/min) discharge, at a total head of 114.47 m (375.57 ft) with an input power of 23.59 kW.
2. At 50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min) rated discharge, the pump developed 116.78 m (383.13 ft) of total head with 67.30% combined efficiency.
3. At 110.00 m (360.89 ft) rated head, the pump discharged 52.60 m^3/hr (0.52 ft^3/sec, 876.87 l/min) with 67.13% combined efficiency.

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept MD ANISUR RAHMAN Brigadier General Head of Mechanical Engineering Dept. MIST, Mirpur Cantonment, Dhaka

TEST OF DIFFERENT PARAMETERS

Pump Type:	Submersible Pump	Client:	Executive Engineer Shongroh Bivag - 2 Dhaka Wasa, Dhaka
Head:	110.00 m (360.89 ft)	Client's Ref and Date:	46.05.0000.428.07.034.2023-441 Date: 10-11-2024
Discharge:	50.00 m^3/hr (0.49 ft^3/sec, 833.50 l/min)	Name of Supplier:	M/S United Trade Center
Pump No:	PS 24270652	MIST (ME) Ref:	23.12.0902.006.021.008.04.12.2024-6
Motor No:	MR 2224261068	Pump ID:	20241119-0575
Date of Test:	19-11-2024	Ambient Temperature:	28°C
Relative Humidity:	40%	Water Temperature:	20°C
Rated Speed:	N/A	Operating Voltage:	400±2 V AC

Pump	
Pump Bowl Diameter	145 mm
Rated Head	110.00 m
Rated Discharge	50.00 m^3/hr
Speed (No Load)	3008 rpm
No of Stages	14
Installation	Vertical Installation
Non-return Valve	Built in with the pump
Cable Guards and Channels	2X Cable guard fitted outside the pomp bowl
Motor	
Power Supply	AC, 3-Phase, 400±2 V, 50Hz
Power Factor	0.8
Current at Rated Discharge	47.61 amp
Rated Power	23.65 kW
Starting Method	Star-Delta Starter
Motor Enclosure	IP 68
Cable Size (with insulation)	3X36.32 mm^2
Cable Size (without insulation)	3X18.47 mm^2
Cable Length	2X 4.25 m

Prepared By	Approved By
Tariq Mahbub Assistant Professor, ME Dept	Brig Gen Md Anisur Rahman Head, ME Dept

MD ANISUR RAHMAN
Brigadier General
Head of Mechanical Engineering Dept.
MIST, Mirpur Cantonment, Dhaka