MEPTURA

ENGINEERING BEYOND POSSIBILITIES

COMPANY PROFILE

Mechanical and fire engineering, under one contract

Meptura (Pvt) Ltd designs, supplies, installs, commissions and maintains HVAC, fire detection, fire prevention, fire pump and personal protective equipment systems for commercial, industrial and institutional buildings in Sri Lanka.

ARMSTRONG

Authorised Agent, Sri Lanka

Meptura (Pvt) Ltd represents Armstrong Fluid Technology — designers and manufacturers of intelligent fluid flow equipment since 1934.

MEPTURA (PVT) LTD
95/3/A, SADAHAM MAWATHA
WALPOLA, ANGODA
WESTERN PROVINCE, SRI LANKA

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How to use this document. Sections 01 to 04 describe the company and the partnership behind the equipment we supply. Sections 05 onward are the working reference: the range, the delivery process, the standards we build to, and the reports you receive at each stage of a project.

01 — WHO WE ARE

One team answerable for the whole system

Most buildings end up with air conditioning from one contractor, fire detection from another and pumps from a third. Nobody owns the interface between them, and the gaps appear at commissioning — usually late, usually expensive.

Meptura covers all five disciplines. The same engineers who size the chilled water plant specify the fire pump set and the detection system that protects it. When the systems have to work together, there is no argument about whose scope the problem sits in.

We are based in Colombo and work across Sri Lanka. Our work spans new-build fit-out, retrofit of ageing plant, and the maintenance contracts that keep both running afterwards.

> **Engineering Beyond Possibilities.** The name on the door is a claim about method, not marketing. We would rather tell a client that a specification is wrong than quote it and be right later.

What we do, in order

STAGE	WHAT IT MEANS IN PRACTICE
Survey and design	Site survey, load assessment, duty calculation and equipment selection against the actual application rather than a catalogue page.
Supply	Equipment procured through our principal and approved suppliers, with technical submittals issued for consultant approval before anything is ordered.
Installation	Mechanical installation, pipework, ducting, electrical termination and integration with the building automation system.
Commissioning	Witnessed testing against the design duty, with the results recorded and handed over as part of the O&M documentation.
Maintenance	Planned preventive maintenance, performance monitoring and spares held against the equipment we installed.

02 — CAPABILITY

Five disciplines, one responsibility

Each of the five is a complete scope in its own right. Taken together they cover everything mechanical and everything fire-related in a building, which is the point.

HVAC Solutions 01

Air conditioning, ventilation and chilled water

- Chilled water plant: chillers, primary and secondary pumping, plate heat exchangers
- Air handling units, fan coil units, VRF and split systems
- Ducting, insulation, grilles, diffusers and dampers
- Ventilation and smoke extract, kitchen and car park systems
- Controls, BMS integration and plant optimisation

Fire Detection 02

Addressable and conventional systems

- Addressable and conventional detection panels
- Smoke, heat and multi-criteria detectors, manual call points
- Sounders, beacons and voice alarm interfaces
- Interface with suppression, dampers, lifts and access control
- Cause-and-effect programming, testing and certification

Fire Prevention 03

Sprinkler, hydrant and suppression

- Wet and dry sprinkler systems, deluge and pre-action
- Hydrant and hose reel systems, landing valves
- Clean agent suppression for server rooms and switchrooms
- Portable and wheeled extinguishers
- Hydraulic calculation, installation and flow testing

Fire Pumps 04

Certified pump sets and packages

- Electric, diesel and variable-speed fire pump sets
- Duty, standby and jockey pump configuration and sizing
- Suction and discharge headers, controllers and break tanks
- Packaged and enclosed fire pump houses
- Witnessed performance testing and commissioning records

02 — CAPABILITY, CONTINUED

Protective equipment and support

Personal Protective Equipment 05

Protection for the people on site

- Head, eye, hearing and respiratory protection
- Fire-response clothing and breathing apparatus
- Fall arrest harnesses and confined-space equipment
- High-visibility clothing, gloves and safety footwear
- Supply against the standards applicable to the facility

Maintenance & Service 06

Keeping what we installed performing as commissioned

- Planned preventive maintenance contracts
- Annual fire system testing and certification support
- Performance monitoring and energy reporting
- Breakdown attendance and fault diagnosis
- Genuine spares held against installed equipment

Why the combined scope matters

One interface
The fire pump controller, the detection panel and the BMS all have to talk to each other. When one contractor owns all three, that conversation happens at design stage rather than on site.

One programme
Sequencing mechanical and fire works under a single programme removes the wait states that appear when two contractors need the same riser on the same week.

One warranty
A single party is accountable for the system performing, not for a component working. That distinction decides how a defects period actually goes.

> **Scope we do not claim.** We are not a civil contractor and we do not design buildings. We work to the consultant's intent and take responsibility for the mechanical and fire systems within it. Where a specification will not achieve what it is meant to, we say so in writing before we price it.

03 — OUR PRINCIPAL

Armstrong Fluid Technology

Meptura (Pvt) Ltd is the authorised agent for Armstrong Fluid Technology in Sri Lanka. Armstrong designs, manufactures and markets fluid flow and control equipment for HVAC and water-based process industries.

The company was incorporated in 1934 under Samuel A. Armstrong. In 1952, under James A. Armstrong, it began a series of initiatives that set its direction and led to substantial growth. It remains privately held, under the third generation of family ownership, with products installed in some of the world's premier facilities.

For us the agency means three practical things: equipment selected with factory software against your actual duty, a warranty that covers controls and pump together, and parts and service available here rather than quoted from abroad.

ESTABLISHED	1934, Toronto, Canada
OWNERSHIP	Private, third generation of family ownership
PEOPLE	More than 1,000 worldwide
MANUFACTURING	Eight facilities, four continents
NETWORK	Over 300 representatives and agents
RECOGNITION	Named one of Canada's 50 Best Managed Companies six times

Solution range available through the agency

Pumping
Commercial, light commercial and residential pumping products, with integrated variable speed control.

Heating and cooling
Complete systems, heat exchangers and flow control products for hydronic plant.

Fire suppression
Fire safety pumps, controllers and packages certified to the relevant global standards.

Advanced control
Integrated plant control and tower control systems that work across brands of chiller, pump and BAS.

Packaged systems
Modular plant rooms and fire pump houses built and tested in the factory.

Performance services
Design assist, project assist and startup assist, plus ongoing performance management.

04 — SIGNATURE TECHNOLOGY

Design Envelope

Design Envelope replaces mechanical components with electronics and software intelligence, to boost energy efficiency, allow the equipment to be downsized at selection, and optimise part-load performance — which is where a building spends almost all of its operating life.

1.05M
Tonnes of CO_2 equivalent saved worldwide

1.81B
kWh of electricity saved since 2007

30%
Additional saving from Parallel Sensorless control

40%
Annual saving with plant-level performance management

Savings for Armstrong clients' Design Envelope installations worldwide, as published, verified to April 2021.

What changes on site

CONVENTIONAL	DESIGN ENVELOPE
Wall-mounted drive, enclosure and wiring	**Controls on the pump**
Separate line isolation transformer	**Integrated 5% line isolation**
Differential-pressure sensor and cabling	**Sensorless, ±5% flow accuracy**
Pump and drive warranted separately	**Three-year warranty on both**
Indoor only without an enclosure	**Outdoor rated to 125 hp**

Twin pumps: the Tango comparison

MEASURE	DUTY/STANDBY	TANGO
Total pump weight	811.9 kg	86.6 kg
Installation weight	1198.4 kg	322.9 kg
Footprint	1.12 m²	0.46 m²
Five-year lifecycle saving		**23% to 33%**

Published by Armstrong, comparing Design Envelope Tango against a standard end-suction horizontal duty/standby configuration.

A word on published savings. Every figure above is the manufacturer's, from installations outside Sri Lanka. What a particular building achieves depends on its existing equipment, its load profile and its tariff. We establish that by survey before we put a number in front of a client.

05 — PRODUCT RANGE

Pumps and boosters

A summary of the principal ranges. Full specifications, performance curves and selection data are issued with the technical submittal for each project.

DESIGN ENVELOPE

4322 Tango

Flow	to 900 USgpm
Head	to 160 ft
Power	1–10 hp
Size	1½"–3"

DESIGN ENVELOPE

4302 dualArm

Flow	to 1250 USgpm
Head	to 250 ft
Power	1–75 hp
Size	3"–8"

DESIGN ENVELOPE

4300 vertical in-line

Flow	25–25,000 USgpm
Head	10–300 ft
Power	1–1250 hp
Size	1½"–20"

DESIGN ENVELOPE

4200H end suction

Flow	25–4500 USgpm
Head	10–400 ft
Power	1–125 hp
Size	1.5"–8"

CONVENTIONAL

4030 end suction

Flow	to 5000 USgpm
Head	to 600 ft
Power	0.33–300 hp
Temp	250°F

CONVENTIONAL

4600 split case

Flow	to 7000 USgpm
Head	to 600 ft
Power	1½–500 hp
Temp	225°F

CONVENTIONAL

4700 multistage

Flow	to 400 USgpm
Head	to 900 ft
Power	½–50 hp
Size	1¼"–4"

DESIGN ENVELOPE

6800 booster set

Flow	to 1962 USgpm
Pressure	to 320 psi
Power	to 250 hp

DESIGN ENVELOPE

6900 booster set

Flow	to 500 USgpm
Pressure	to 100 psi
Power	to 40 hp

> Seventeen pump ranges and three booster ranges are available in total. The nine shown are those most often specified in Sri Lankan commercial projects.

05 — PRODUCT RANGE, CONTINUED

Heat transfer, fire safety and accessories

PFX SERIES

Plate and frame exchanger

Flow	to 32,000 gpm
Duty	to 57 MMbtu/hr
Pressure	435 psi
Plates	304/316, Ti

TANK HEATERS

Internal tube bundle

Pressure	150 psi
Temp	35–375°F
Size	4"–20"

DESIGN ENVELOPE

Fire pump

Flow	to 1500 USgpm
Power	20–250 hp
Ambient	50°F+

FIREPAK

Horizontal split case

Flow	to 3000 USgpm
Drive	Electric / diesel

FIRESET

Vertical in-line

Flow	to 1500 USgpm
Saving	to 60% floor space

ACCESSORIES

Suction guides

Size	1½"–20"

ACCESSORIES

Expansion tanks

Plain steel	15–525 gal
Diaphragm	8–211 gal
Bladder	10–1056 gal

Certification carried by the range

FIRE SAFETY EQUIPMENT	NFPA, UL, ULC and FM — constructed, tested and certified to the strictest global standards
HEAT EXCHANGERS, SAFETY	ASME, PED, CRN and NSF 61
HEAT EXCHANGERS, PERFORMANCE	AHRI certified
MOTOR EFFICIENCY	NEMA Premium (IE3) and DEPM (IE5) motors

06 — HOW WE DELIVER

From enquiry to handover

Every project runs through the same seven stages. Each produces a document, so at any point there is a written record of what was agreed and what was measured.

#	STAGE	WHAT HAPPENS	DOCUMENT ISSUED
01	**Enquiry and survey**	Site visit, measurement of existing plant where relevant, load and duty assessment.	**Site Survey Report**
02	**Selection and proposal**	Equipment selected against duty with factory software; priced proposal with scope, exclusions and programme.	**Quotation**
03	**Technical submittal**	Datasheets, curves, dimensional drawings and compliance statement for consultant approval.	**Technical Submittal**
04	**Procurement**	Order placed with the principal or approved supplier; delivery tracked against programme.	**Delivery schedule**
05	**Installation**	Mechanical installation, pipework, electrical termination, BMS interface.	**Progress reports**
06	**Testing and commissioning**	Witnessed performance testing against design duty; cause-and-effect proving on fire systems.	**Commissioning & Performance Test Record**
07	**Handover**	O&M manuals, as-built information, training for the operating team, warranty start.	**Handover Certificate**

Design assist

Where a consultant wants help optimising plant room space and equipment selection, the principal's design assist service is available through us.

Project assist

For packaged systems, dedicated project management across design, procurement and assembly stages.

Startup assist

On-site factory expertise to oversee the startup procedure and advise on fine-tuning the installation.

07 — STANDARDS

What we build to

Fire systems in particular are only as good as the standard they are tested against. These are the references we work to, and the ones we will ask a consultant to confirm at the start of a project.

Fire protection

NFPA 20	Stationary pumps for fire protection
NFPA 13	Installation of sprinkler systems
NFPA 14	Standpipe and hose systems
NFPA 72	National fire alarm and signalling code
NFPA 2001	Clean agent fire extinguishing systems
UL / ULC / FM	Listing and approval of fire pump equipment

Mechanical and equipment

ASHRAE	HVAC design, ventilation and energy standards
SMACNA	Duct construction and installation
ASME / PED	Pressure vessel design and certification
AHRI	Performance certification of heat transfer equipment
NSF 61	Drinking water system components
NEMA / IEC	Motor efficiency classification

Local compliance

Work in Sri Lanka is carried out to the requirements of the relevant local authority having jurisdiction, including fire certification through the Fire Services Department and any conditions attached to the building approval. Where a local requirement and an international standard differ, we work to whichever is the more onerous and record the decision in the submittal.

> **On stating compliance.** A compliance statement is only meaningful if it is specific. Our technical submittals list the clause, the requirement and how the proposed equipment meets it — not a blanket declaration that the offer complies.

08 — DOCUMENTS WE ISSUE

The paperwork you receive

Five standard reports accompany a project. Blank templates are issued as a separate document, MEP/SR/01 Standard Reports, so a client or consultant can see the format before work begins.

REPORT	PURPOSE AND CONTENTS	STAGE
Site Survey Report	Records the existing condition, measured parameters, constraints and the duty on which any proposal will be based. Photographs and sketches attached.	01
Technical Submittal	Equipment datasheets, selection curves, dimensional and electrical data, materials of construction, and a clause-by-clause compliance statement.	03
Commissioning & Performance Test Record	Measured flow, head, current, voltage and power at each test point against the design duty, with pass criteria and the names of those witnessing.	06
Fire System Test Certificate	Device-by-device test record, cause-and-effect proving, pump churn and flow test results, and the declaration for the authority having jurisdiction.	06
Service & Maintenance Report	Issued after each planned or reactive visit: work carried out, readings taken, parts used, defects found and recommended action.	Post-handover

Handover documentation

Operation and maintenance manual

System description, equipment schedule, manufacturer literature, spare parts list, recommended maintenance intervals and emergency procedures.

As-built information

Marked-up drawings reflecting the installation as it was actually built, including valve and device schedules with their final references.

Training record

Attendance and content of the handover training given to the operating team, so there is a record of who was shown what.

Warranty certificate

Start date, duration, what is covered and what is excluded, and the conditions attached — principally that maintenance is carried out at the stated intervals.

09 — SECTORS

Where these systems are installed

The engineering is the same discipline throughout. What changes between sectors is the operating risk, the uptime expectation and the level of redundancy that has to be designed in.

Commercial and mixed use

- Office towers and business parks
- Retail and shopping complexes
- Hotels, apartments and condominiums
- Typical redundancy: 2 × 70% for comfort-sensitive space

Healthcare and critical

- Hospitals, clinics and laboratories
- Data centres and server rooms
- Blood banks and critical care facilities
- Typical redundancy: 2 × 100%, full duplication

Industrial

- Manufacturing plants and process facilities
- Apparel, food and beverage production
- Warehousing and cold storage
- Typical redundancy: 2 × 50% for general use

Institutional and public

- Schools, universities and campuses
- Government and municipal buildings
- Transport and utility infrastructure
- Typical redundancy: matched to occupancy and use

On redundancy. Most building HVAC systems operate at the design point less than 1% of the time, yet traditional design applies 100% redundancy throughout. Selecting 2 × 50% instead of 2 × 100% still supports 90–95% of design point heat transfer if one unit fails — a temperature variation of around two degrees. Deciding that properly at design stage is where a large part of the capital saving sits.

10 — COMPANY PARTICULARS

Meptura (Pvt) Ltd

REGISTERED NAME	Meptura (Pvt) Ltd
BUSINESS	Mechanical and fire engineering contractor
REGISTERED OFFICE	95/3/A, Sadaham Mawatha, Walpola, Angoda
PROVINCE / DISTRICT	Western Province, Colombo District
EMAIL	inquiries@meptura.com
WEB	meptura.com
PRINCIPAL	Armstrong Fluid Technology — authorised agent, Sri Lanka

Registration details. Company registration number, VAT and any trade or contractor registrations are issued on request and accompany every formal tender submission.

Who to contact

NEW ENQUIRIES	inquiries@meptura.com
TENDERS AND SUBMITTALS	inquiries@meptura.com Mark for the attention of the projects team
SERVICE AND BREAKDOWNS	inquiries@meptura.com
ACCOUNTS	inquiries@meptura.com

What to send with an enquiry

The more of this you have, the faster a useful answer comes back. None of it is essential — we will survey if it is easier.

- Duty required: flow and head, or the cooling load
- Drawings or a schematic of the system
- The specification, if a consultant has issued one
- Programme dates and any access constraints
- For a retrofit: the nameplate data of what is installed now

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