

**TUFLOW PRODUCTS SOFTWARE LICENCE AGREEMENT
SCHEDULE B (FM-PKR): TUFLOW FLEXIBLE MESH MODELLING
PKR PRICE LIST
7th June 2024**

Please contact sales@tufLOW.com for a written quote. To help us assist you, please specify any preferences you have on:

- Whether a Perpetual, Yearly Subscription, Monthly Rental or Cloud Service purchase.
- Lock Type (Hardware or Software).
- Licence Type (Local or Network) and number of licenses (1, 2, 4 etc).
- Any optional modules (GPU, CATCH, AD, 3D, ST, PT or WQ) and number of module licences.

Purchase Options:

Licences can be purchased as:

- **Perpetual:** Indefinite expiry date plus an optional annual software upgrade and support fee.
- **Yearly Subscription:** One year expiry and one year of software upgrades and support.
- **Monthly Rental:** Rent licences month by month.
- **Cloud Simulation Service:** TUFLOW FV licence plus hardware at an hourly rate.

Lock Types:

TUFLOW Products are licenced via locks, available in two forms:

1. **Hardware Lock:** Licences are assigned to a dongle (e.g. USB lock) that can be attached to any computer. Licences on the Hardware Lock can be updated at any time (for example, to upscale with rental or additional new perpetual licences).
2. **Software Lock:** Licences are assigned to a computer. Software Locks are recognised by the 2016 release onwards.
3. **Cloud Server:** Only available for Network licence types, your licences are hosted on a TUFLOW managed cloud server. Web access is required to connect with the server. The Cloud server option is recognised by the 2016 release onwards.

Licence Types:

1. **Local Licence:** TUFLOW FV simulations can only be run on the computer hosting the Lock.
2. **Network Licence:** The Lock is hosted on any computer (e.g. a server). Other computers check out licences from the host computer via a company's network. There are no regional restrictions associated with Network licences.

How many simulations can be run at the same time?

The number of licences reflect how many TUFLOW FV simulations can be run in parallel at any given time. For example, a Local 4 can run 4 simulations at the same time on the one computer. A Network 5 allows up to 5 simulations at any one time across an organisation's network. If all licences are in use when a TUFLOW FV simulation starts, the simulation enters a holding pattern until a free licence is available.

Are there ongoing costs?

Yes, if you wish to access our support services and keep your perpetual licence maintained to access the latest software upgrades and releases, an annual invoice for 15% of the value of your perpetual licences is issued in June of each year. At the time of the initial purchase, the annual fee is pro-rated to next June.

Are discounts available for multiple licences?

Our price structure heavily discounts purchase of multiple licences. The more licences you own, the cheaper the per licence rate. In addition, a discount is provided for multiple Local Licences of the same product by the same Licensee (i.e. one point of contact for all invoicing).

What TUFLOW functionality is included?

TUFLOW FV is the flexible mesh solver. It can be used to model domains comprising of a mesh of quadrilateral and triangular elements. Licences are 1D and 2D enabled. 1D components in TUFLOW FV are presently limited to 1D culverts (full 1D functionality is available in TUFLOW's fixed grid solvers). TUFLOW FV functionality is expansive, using a 2D or 3D explicit finite volume (FV) solution scheme and supplemented with a range of structure options. Graphical Processing Unit (GPU), CATCH Module, Advection-Dispersion (AD), Particle Tracking (PT), 3D, Sediment Transport (ST) and Water Quality (WQ) are available as optional modules- refer to the Optional Modules Section for information on these advanced features. Key features are:

- Unlimited 1D culverts, 2D elements and 3D Layer (z, sigma or sigma hybrid)
- TUFLOW FV's 2D or 3D explicit solver.
- An open model design, suitable for bespoke add-ons.
- TUFLOW FV is parallelised, allowing a single simulation to utilise more than one thread (i.e. more than one CPU or core).
- User controlled 1st or 2nd Order solution scheme.
- Wide ranging 2D boundary conditions for coastal, flooding and estuarine water quantity and quality applications.
- Structures including culverts, bridges, weirs, gates, pumps and more.
- Numerous output options, styles and formats.
- Supporting Matlab and Python functions for advanced 2D and 3D result visualisation.

TUFLOW Pricing (PKR excluding taxes)

TUFLOW Engine Price

Item	Description	Annual Subscription ^{1 3}	Perpetual Licence ^{2 3}
Local Licences Allows the Licensee to run one simulation per licence on the computer with the Lock. For example, a Local 8 allows for up to 8 simulations to be run at one time on a single computer.	Local 1	Rs 541,000 (Rs 541,000 / licence)	Rs 1,182,000 (Rs 1,182,000 / licence)
	Local 2	Rs 777,000 (Rs 388,500 / licence)	Rs 1,818,000 (Rs 909,000 / licence)
	Local 4	Rs 1,018,000 (Rs 254,500 / licence)	Rs 2,527,000 (Rs 631,750 / licence)
	Other	Price upon request	
	Additional Local Licence Locks: The price for each additional Perpetual Local Licence Lock of the same product purchased by the same Licensee (i.e. same office and same organisation) is discounted. The largest discounts apply to the cheapest locks. Discount Rate: - 10% for the 2 nd Local Lock - 20% for the 3 rd and subsequent Local Locks Annual subscriptions are not eligible for multi-licence discounts.		
Network Licences Allows multiple users and simulations across the licensee's local area network (LAN). For example, a Network 8 allows for up to 8 simulations to be run at one time on computers connected to the licensee's local area network (LAN).	Network 1	Rs 786,000 (Rs 786,000 / licence)	Rs 1,727,000 (Rs 1,727,000 / licence)
	Network 3	Rs 1,930,000 (Rs 643,333 / licence)	Rs 4,345,000 (Rs 1,448,333 / licence)
	Network 5	Rs 2,620,000 (Rs 524,000 / licence)	Rs 6,382,000 (Rs 1,276,400 / licence)
	Network 8	Rs 3,712,000 (Rs 464,000 / licence)	Rs 8,891,000 (Rs 1,111,375 / licence)
	Network 10	Rs 4,324,000 (Rs 432,400 / licence)	Rs 10,345,000 (Rs 1,034,500 / licence)
	Network 15	Rs 5,460,000 (Rs 364,000 / licence)	Rs 13,182,000 (Rs 878,800 / licence)
	Network 20	Rs 6,595,000 (Rs 329,750 / licence)	Rs 15,782,000 (Rs 789,100 / licence)
	Network 30	Rs 8,910,000 (Rs 297,000 / licence)	Rs 21,327,000 (Rs 710,900 / licence)
	Network 50	Rs 13,540,000 (Rs 270,800 / licence)	Rs 32,418,000 (Rs 648,360 / licence)
	Other	Price upon request	
Additional Locks: Organisations who purchase a Network 20 or greater are entitled to a second Lock to distribute their Network licences. This provides contingency for host computer outages. Note that a request to reduce the number of licences on a lock may require the lock to be returned for re-coding as part of a redistribution.			

¹ Annual subscription licences are more restrictive than perpetual licences. New engine and module licences can only be added annually at the time of the licence renewal. Monthly rental licence upgrades are not permitted during the period of rental. Annual subscription licences are not subject to the multi-Local Licence discounts.

² Perpetual licences are the most flexible licence type. Upgrades can be made to add new engine and module licences at any time. Monthly rentals can also be added to periodically up/downscale.

³ Perpetual Purchase from Annual Subscription: If at the end of a subscription period an Annual Subscription is purchased as a Perpetual Licence, 50% (ex taxes) of the last one-year's subscription fees are deducted from the perpetual licence price. This offer is only valid at the time of the annual subscription renewal.

Optional TUFLOW Modules

Computational Modules:

TUFLOW CATCH Module	Provides access to the TUFLOW CATCH Module . Can be used to enable the constituent (sediment, nutrient and pollutant) generation feature in HPC, and to link TUFLOW HPC with TUFLOW FV for seamless catchment / receiving water modelling.	50% of the equivalent TUFLOW Engine Licence Price.
TUFLOW AD Module	Provides access to the TUFLOW AD Module . Can be used to simulate plumes, flushing studies, saline intrusion, etc. Includes a heat exchange formulation for thermal studies.	50% of the equivalent TUFLOW Engine Licence Price.
TUFLOW GPU Module	Provides access to a GPU device for TUFLOW's heavily parallelised GPU Solver, thereby substantially reducing simulation times.	50% of the equivalent TUFLOW Engine Licence Price.
TUFLOW 3D Module	Provides access to the TUFLOW 3D Module . Can be used by TUFLOW FV to represent flow conditions where the velocity and/or density profile varies with depth.	50% of the equivalent TUFLOW Engine Licence Price.
TUFLOW ST / MORPH Module	Provides access to the TUFLOW ST Module . Can be used by TUFLOW FV to carry out cohesive and non-cohesive sediment transport simulations, including morphological update.	50% of the equivalent TUFLOW Engine Licence Price.
TUFLOW PT Module	Provides access to the TUFLOW PT Module. Can be used by TUFLOW FV to carry out particle tracking simulations.	50% of the equivalent TUFLOW Engine Licence Price.
TUFLOW WQ Module	Provides access to the TUFLOW WQ Module . Can be used by TUFLOW FV to carry out water quality simulations that include dissolved oxygen, silicate, inorganic nutrients, particulate and dissolved organic matter and multiple phytoplankton groups.	50% of the equivalent TUFLOW Engine Licence Price.

From the 2024 release onwards, FV and Classic/HPC module licences are sharable between both engines. The number of Module licences on a lock can be the same or less than the number of TUFLOW licences. Modules can be purchased at a later date, and changes to Locks can be carried out remotely.

Example Module Price Calculation

Local 4 TUFLOW + Local 1 AD Module: Rs 2,527,000 + (0.5 x Rs 1,182,000) = Rs 3,118,000 (ex Taxes)

Monthly Rental Licences and Conditions

Monthly Rental of Local and Network Licences is available to existing TUFLOW Licensees.

Rental Price = R + NL

R = Number of months times 10% of the Perpetual Licence Price.

NL = New Lock Purchase (if required) of Rs 11,600. Hardware Locks may be retained indefinitely for any future rentals or purchases. Software Locks can be recoded for future purchases for the life of the computer. If the rental licensing is to an existing (non-Perpetual) Lock previously purchased by the Licensee, NL equals zero.

Note:

- Rental of additional Local or Network Licences are priced based on the price difference between the Licensee's Perpetual Licence and the value of the Perpetual + Rental Licences.
- Local Licence Rentals are not subject to the multi-Local Licence discounts.
- Rental of additional Local or Network Licences are only compatible with existing Perpetual Licences. They are **NOT** compatible with existing Annual Subscription Licences.
- Perpetual and Rental Locks can be attached to the same computer to access licences from both Locks.

Perpetual Purchase from Rental: If at the end of the rental period the Rental Licence is purchased as a Perpetual Licence, 50% (ex taxes) of the consecutively accrued rental fees (maximum of 6 months) of R in the Rental Price formula are deducted from the purchase price. Offer valid for 1 month following last rental expiry.

TUFLOW FV Threads

TUFLOW FV is parallelised allowing a single simulation to utilise more than one thread (i.e. more than one CPU or core). The maximum total threads activated by TUFLOW FV simulations is limited to four times the maximum number of TUFLOW FV licences available across all accessible dongles, unless additional threads have been purchased. For example, for a Local 4 licence allowable combinations are: 1 simulation utilising 16 cores; or 1 simulation using 8 cores and 2 simulations using 4 cores each; or 4 simulations each utilising 4 cores each.

Cloud Simulation Options

Client Cloud Permissions	TUFLOW Cloud Simulation Service
<p>Organisations with access to Cloud hardware may host Network Licences within their Cloud domain provided these licences are only available to users who have access to the Licensee's LAN.</p> <p>The link below provides a detailed report discussing some benefits, challenges and solutions relating to Cloud computing to help people who are setting up their own system.</p> <p>Note, rental licences can be used to up/downscale your licence volume on a monthly basis.</p> <p>Click for further details</p>	<p>BMT offer a Cloud Simulation Service for TUFLOW. For cloud-based simulations, BMT will supply the TUFLOW licences, provide access to Cloud hardware and run the simulations. This Cloud Simulation Service is quoted at a per hour rate, which varies depending on the licence type, hardware selected (CPU and GPU) and order size.</p> <p>The service is ideally suited to short term bulk simulations. For example, Monte Carlo simulations, where very large numbers of simulations are to be completed within a short timeframe.</p> <p>Click for further details</p>

Annual Software Upgrades and Support Fee

<p>Annual Software Upgrades and Support (Maintenance) Fee</p>	<p>The annual software upgrades and support, or software maintenance fee provides access to new releases and software updates. It also grants the Licensee access to software support via support@tuflow.com.</p> <p>The fee is highly recommended for Perpetual Licences and is compulsory for Annual Subscription Licences.</p> <p>For unmaintained Perpetual Licences a surcharge of 25% on all unpaid annual fees applies should annual maintenance be commenced or reinstated at a later date.</p> <p>There is no annual maintenance fee applied to monthly rental purchases.</p>	<p>15% of the TUFLOW licence value including any purchased modules.</p> <p>The first instalment is pro-rated to the end of next June using the following factors:</p> <p><u>Order Date:</u></p> <table style="margin-left: 20px;"> <tr> <td>Jul to Sep</td> <td>0.75</td> </tr> <tr> <td>Oct to Dec</td> <td>0.50</td> </tr> <tr> <td>Jan to Mar</td> <td>0.25</td> </tr> <tr> <td>Apr to Jun</td> <td>1.00 (to June next year)</td> </tr> </table> <p>Thereafter, an invoice is issued around June each year to cover software upgrades and support for the next 12-month period from July to June.</p>	Jul to Sep	0.75	Oct to Dec	0.50	Jan to Mar	0.25	Apr to Jun	1.00 (to June next year)
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Miscellaneous		
Academic Licence Discount	Licences and the annual software upgrades and support fee are discounted for academic institutions for non-commercial, educational use.	50% discount on Perpetual and Annual Subscription Licences
Upgrade of an Existing Licence	<p>Additional engine licences can be added at a later date after the initial purchase. Modules can also be purchased at a later date after initial purchase of engine licences.</p> <p>Local Licences can be converted to Network Licences and vice versa.</p> <p>Upgrades can be made to a fully maintained perpetual licence at any time. Upgrades to annual subscription licences only be completed annually at the time of their renewal.</p> <p>Changes to Locks can be carried out remotely.</p>	<p>The difference in current list price between the two licences.</p> <p>The upgraded licence(s) value must be of similar or greater value than the existing licence(s). No refunds are issued.</p>
New Lock Purchase	New lock purchase	Rs 40,000
Transfer or Replacement of an Existing Lock	If a Lock becomes faulty through normal use, there is no replacement charge - please contact sales@tuflow.com .	No Cost
	Damaged Hardware Locks that are returned and need to be replaced.	Rs 40,000
	Software Locks that need to be transferred to another computer.	Rs 20,000
Loss of an Existing Hardware Lock or Transfer of a Software Lock Not Possible	<p>The Licensee is responsible for taking out insurance against the loss, theft or disappearance of Hardware Locks, or if a Software Lock cannot be transferred (e.g. computer is stolen or no longer functional).</p> <p>The cost to replace a lost or stolen licence is equal to the Licence Fee of the TUFLOW Software payable at the time of the replacement of the lost Licence Lock.</p>	

This Price List is to be read in conjunction with the latest TUFLOW PRODUCTS SOFTWARE LICENCE AGREEMENT available from <https://www.tuflow.com/downloads/>.

The applicable currency is the currency of the country of the Licensee's invoicing address. TUFLOW Prices are available in AUD, NZD, EUR, GBP, USD, INR and PKR from <https://www.tuflow.com/pricing/>. For countries, whose official currency is not accounted for by these currencies, the AUD rate applies unless otherwise quoted in writing.

Any applicable non-Australian government taxes are the responsibility of the Licensee.

BMT reserves the right to vary the Prices in this Schedule from time to time without notice to the Licensee.