CONSULTATION PAPER
Implementation of Regulatory Measures in Sri Lanka for Water Closet (Cisterns), Water Draw Off Taps and Stop Valves Metal & PVC

Contents

Appendix

ABBREVIATIONS AND ACRONYMS

DOPL – Department Order, Process Legality

HS Codes – Harmonized System Codes (Customs)

FOV- Float Operated Valves

ITI - Industrial Technological Institute

MCP&WS – Ministry of City Planning & water Supply

NWSDB – National Water Supply & Drainage Board

SLSI - Sri Lanka Standards Institute

CAA – Consumer Affairs Authority

1 Introduction

Current Status of Pipe Born Water Supply in Sri Lanka.

Water is an essential substance for the survival of mankind and 30% of world population has no proper access to drinking water. 48% of Sri Lankan population has organized water supply facilities and 52% is dependent on other sources such as wells, streams and rivers etc, including 10% dependent on unprotected sources (Department of Census, 2012). Government of Sri Lanka has given priority to provide safe pipe born drinking water for all in 2030 and 56 % coverage to be achieved by 2020.

The national authority on providing drinking water is the NWSDB and is responsible for providing drinking water to majority of population through major water schemes, with 2.0 million consumers. Major constrains on coverage expansion are, insufficient funding for capital investment, high treatment and operation cost, lack of proper mechanism for cost recovery and lack of awareness related cost of water among stakeholders.

Capital investment (including distribution cost) at present is in the range is 250,000 to 440,000 Rs/m^3/day installed capacity for medium and large schemes.

The average operation & maintenance cost range of 40-50 Rs/m^3. Therefore, average cost of water is 160 Rs/ m^3 including recovery of capital investment. Present cost recovery in the National Water Supply & Drainage Board is 47Rs/ m^3. Hence, water sector in Sri Lanka is highly subsidized and has become a burden to the government. This gap must be reduced for the government to secure funding for coverage expansion to achieve targets set for 2025.

It has been observed that excessive quantity of water is leaked due use of non-standards water fittings by Sri Lankan water consumers. Most items are importing to Sri Lank by Asian countries few amount from European Market. Since there is no any import regulation or /and taxation inferior quality non-standards water fittings are flowing to Sri Lanka and it contribute much to water wastage and flowing foreign exchange out of country.

Water conservation has been identified as a measure for addressing huge capital requirement for providing new safe pipe born water supplies. Subsidised low tariff for water supply doesn't motivate consumers to prevent leaks by replacing defective water fittings by standard water fittings.

Therefore need of regulatory measures for fittings which contribute mostly for water wastage are identified and those are decided to be regulated

2 Need, Objectives and Benefits of Regulations on Quality of Water Fittings

It has been identified that the main reasons for the leakages of treated water in our country are the inferior quality water fittings and the poor plumbing practices. Greater Kandy Water Supply Project under the NWSDB has taken measures to address these issues by regulating the procurement of water fittings and by establishing a Licensed Plumber system in Sri Lanka.

It has been observed that excessive quantity of water is leaked due to use of non-standard water fittings by Sri Lankan water consumers. Most items are importing to Sri Lank by Asian countries small amount from European Market. Since there is no any import regulation or taxation, inferior quality non-standards water fittings are flowing to Sri Lanka and it has contributed much to water wastage and flowing of foreign exchange out of country.

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Therefore, need of regulatory measures for fittings which contribute mostly for water wastage is identified and those are decided to be regulated.

Further contribution of local industry in water fittings manufacturing is presently very low. However, Sri Lanka need to move to produce whatever possible products in Sri Lanka. On the other hand, non-standard import products are cheaper and it discourages local manufacturers as they cannot create competitive market opportunities for their products. Regulation through government institutions is expected addressing these issues in order to overcome present situation.

2.1 Objectives

1. Availability of Quality Goods in the market –

   When national standard is established and regulatory measures are affected, competitive market will be generated for quality fittings at reasonable price and consumers will have access to quality goods.

2. No foreign Exchange Losses for Sri Lankan Agents –

   Since Prior registration will be done, rejection at custom clearance will not happen and it minimizes importers' risk and no more foreign exchange losses.

3. Less influence from external market forces –

Either prior manufacturer registration or having SLS or relevant standard mark on products is compulsory no external influences will be enforced for releasing sub-standard products entering to the market

4. Transparency between manufacturer, agent and customer

   Non-availability of fake or nonstandard products in market will strength the tie between manufacturer, agent and customer and minimise return items back to agents. Customer satisfaction will be improved.

5. Local agent should feel that they can sell quality goods profitably.

   Undue market competition due to substandard and fake products will be eliminated and local agents can fix a reliable competitive price.

6. Promote local manufacturers in the long run

   Reluctance of local manufacturers enter in to market will be eliminated. They will encourage initiating productions and sale their products for a competitive price.

2.2 Benefits

1. Save water by minimizing the leakages and distribute that water to the customers in the immediate surrounding areas without investing for capital. ie . more connections can be provided using the same infrastructure facilities
2. Even at a marginally high price, consumers will be able to purchase a durable product and enjoy the benefits with less interruptions occur due to leakages
3. Spare parts will be available in the market - The consumers do not need to replace the whole unit at a defect or leakage.
4. Minimize the excessive water bills that cause due to the water leakages
    a. High valued bills (around Rs. 3,000.00 - 4,000.00) cause due to leakages could be eliminated from the system
5. Minimize the damage to the environment, which cause due to heavy metal disposal by throwing the broken fittings to the environment

3 Current Status of Regulating Water Fittings

Greater Kandy Water Supply Project took this process of regulating water fittings imported to Sri Lanka to a greater extent. Under the said programme, Treasury approval was granted to impose regulations 09 categories of water fittings and consequently one item among those, Float Operated Valves (FOV) were subjected to import regulations as a pilot project. The milestones in the process are given below

1. Secretary to Ministry of Finance and Planning has agreed to introduce standards for 9 water fitting items as requested by the Ministry of Water Supply and Drainage on 09th January 2013.
2. Approval received from Director General - Department of Trade & Investment Policy, to create HS code for FOV as a pilot project.
3. Obtained the approval from Secretary to the Treasury to introduce regulatory measures for Float Operated Valves (FOV) for Cisterns in Sri Lankan market in March 2015.
4. Issuing two gazette notifications – Revenue Protection and Import Control for FOV
5. Parliamentary approval for gazette of FOV Import control
6. DOPL Issued by Sri Lanka Customs
7. Include to Import Inspection Scheme – SLSI.

As the next step of this process, following three water fitting categories are selected to be regulated.

- Water Closet (Cisterns) Ceramic and plastic
  Spares – Flushing Unit, float operated Valve, Commode water seal, commode cover
- Cast copper alloy type stop valves and draw off taps
  Spares - Sealing washer
- PVC type stop valves and draw off taps
  Spares - Sealing washer

A steering committee has been appointed by the secretary of Ministry of City Planning and Water Supply (MCP&WS) to monitor and implement the work. Currently, identification of the relevant standards, preparations of HS-NSD (Harmonized System National Sub Headings) are in progress. HS Codes for valves are already included to Sri Lanka Customs national imports tariff guide.

The following institutes are the members of this committee and they have capacity and responsibility of developing regulatory tools which noted in section 4 & 5 of this report.

Organization	Responsibility
Ministry of Development Strategy and International Trade	Issuing Import & Export Control Gazette
Ministry of City Planning and Water Supply	Appointing steering Co & Conducting Progress Monitoring meetings. Submitting Cabinet Paper. Coordination and Publicity.
Ministry of Industry and Commerce	Directive & Guide Consumer Affairs Authority & department of Commerce. Conduct market survey, awareness and facilitation of local manufacturers.
Department of Import and Export Control	Preparation & issuing import & export gazette. Market survey for impact assessment.
Department of Trade and Investment Policy	Product identification, preparation of HS Codes & issuing revenue protection Gazette
Department of Commerce	Evaluate effects to Market forces. Ensure availability of products in market. Coordination with CAA.
Department of Industries	Aware local manufacturers and facilitate.
Sri Lanka Standard Institution	Preparation or adoption National Standards, Import regulation under Compulsory Inspection Scheme. Identification of Testing facilities. Coordination between NWSDB & Industrial Technologies Institute (ITI). Registration of Importers & Import Consignment Inspection. Co Ordination, Manufacturers Registration, Inspection.
Sri Lanka Customs	Preparation of HS Codes, Issuing DOPL, refer Import consignment to SLSI, Release only SLSI approved consignment, impose fine for default importers.
Consumer Affairs Authority	Conducting Regulatory impact assessment (RIA). Draft & Issuing CAA Gazette on local market monitoring. Coordination with Customs & monitoring to prevent of non-compliance consignments enter the market. Market Monitoring and impose CAA Gazette.
National Water Supply and Drainage Board	Implement relevant provisions in NWSB Act no 2/1974 and 13/1992. Preparation of Board paper for implement Act No 13/1992 requirement on inferior non-standard water fittings. Upgrade NWSDB Standard documents and specifications. Developing Testing Equipment. Survey on effect of Non-standard water fittings to water leakages. Overall coordination of water fitting regulatory measures, Arrange funds, conduct awareness programmes. Technical studies of Water fittings. Develop test apparatus. Coordination with PUCSL and other stake holders. Drafting consulting document. Conduct market survey.
Construction Industry Development Authority	Upgrade CIDA (successor to ICTAD) Standard bidding documents specifications. Aware contractors.
Public Utilities Commission of Sri Lanka	Preparation of Consultation document, prepare a policy advice to the government. Coordination among stakeholders.

As per the discussion outcomes of Steering committee meeting, SLSI will be establishing / adopting national standards for the said water fittings and service of Industrial Technologies Institute (ITI) will be obtained for the testing purposes. If any new test equipment will be required NWSDB will facilitate ITI with the request of SLSI to develop/procure new testing equipment.

Expenditure/cost for develop testing facilities and conducting awareness programmes, publicity events among stakeholders will be borne by NWSDB under Kandy –North Pathadumbara Integrated water Supply project (KNPIWSP). Financial provision allocated in Institutional development package in this project will be utilized for the same.

4 Status of Present Use of Water Closets, Water Draw off Taps and Stop Vales Metal & PVC

There are standard and non-standard products from above water fittings categories imported and marketed in Sri Lanka. There is no any import regulation practiced and only very few institutions have introduced the use of standard products through their procurement procedure.

There are few local manufactures assembling and marketing agents but most of products are imported to Sri Lanka in finished form and there is no any guarantee that these products at least complied to minimum pressure rating which is a vital indictor for the performance of a water fitting.

Water closet (cistern), Water drawing taps and Stop valves currently used in Sri Lanka are given in appendix A.

5 The Recommended Option For Sri Lanka.

It is recommended to adopt or built Sri Lanka standards and effect to importing and marketing regulations.

Following standards are recommended on this regard for adaptation.

1. Water Closet, Cistern and Flushing Units – BS EN 997;2012 + A1: 2015
2. Water Closet & Urinal Flushing Cisterns – BS EN 14055:200 +A1:2015
3. WC flushing cisterns (Including dual flush cisterns and flush pipes) – BS 1125:1987
4. Polythene Water Storage Tanks – SLS 1174:2011
5. Draw off Taps & Stop Valves , Copper Alloyed – BS EN 12288:2010
6. Sanitary Tapware, Single Taps and combination Taps for water supply systems of Type 1 and Type 2, General Technical Specifications – BS EN 200:2008
7. uPVC Draw off taps & Stop Valves, - ISO 1452: part IV : 2009

These are the standards published and mostly used for the relevant products and it covers technical aspects. Importing, Local Manufacturing, Marketing the specified products that comply the above standards will ensure performances such as minimum static and working pressure, flow rates etc. In addition those cover material compliances as well. The NWSDB expertise who selected these standards ensures that the intended objective can be achieved, if the products compliance to above specified standards.

6 Legal Background and Regulations Required

Since introduction of regulatory measures for these items has been identified as a national priority the similar method applied for float operated valves (FOV) is recommended. The procedure followed for FOV is as follows.

No	Activity	Intended purpose of the activity
1.	Issuing revenue protection gazette for the items to be regulated by Ministry of Finance in pursuance of the powers vested by section 2 of the revenue protection act no 19 of 1962 and introduce separate HS code for above items.	Establish Separate HS Codes for items to be imported.
2.	Issuing Gazette notification by ministry of Development strategies and International Trade under section 20 read with sub section (3) of section 4 and section 14 of the Imports and Exports Control Act No 01 of 1969 as amended by Act No 48 of 1985 and No 28 of 1987.	Import Regulation and avoid import fake or non-standards product to Sri Lanka
3.	Sri Lanka custom shall issue DOPL and advise officers concern to direct all supply consignments to SLSI inspection in compliance to import control gazette mentioned in 2 above.	Regulatory imposing

4.	Issuing a gazette notification by Consumer affairs Authority as per Consumer Affairs Authority Act no 09 of 2003 on market regulation by enforcing ban on sale of non-standard items of above categories	Avoid distribution and sales of fake, non-standard products in market. Continuous market monitoring.
5.	NWDB enforce use of standard water fittings in new buildings, premises to conserve water as per section II items 27 to 29 of Act no 2 of year 1974 and Item 3 of Act no 13 year 1992.	Reduce water leaking. Ensure only Standard products will be used.
6.	CIDA (successor to ICTAD) to enforce use of standard water fittings in their specifications for building works and construction industry	Avoid supply & Installation of fake or non-standard products.

7 Responsibilities of Key Institutions

No.	Organization	Role
01	Ministry of Development Strategy & International Trade	✓ Regulating Authority
02	Department of Import & Export	
03	Ministry of City Development & Water Supply	✓ Coordination and Technical Support
04	National Water Supply & Drainage Board	
05	Ministry of Industry & Commerce	✓ Promoting Local Industry ✓ Finalize tariff structure ✓ Find potential markets ✓ Aware the traders ✓ Develop National policies ✓ Check the authenticity of foreign manufacturers and product certificates
06	Department of Trade & Investment Policy	
07	Department of Commerce	
08	Sri Lanka Standards Institution	✓ Pre-qualification of importers and brands ✓ Verify product conformity based on quality
09	Sri Lanka Customs	✓ Preparation of HS codes ✓ Issuing DOPL & Import Clearance at ports with approval from SLSI

No.	Organization	Role
10	Consumer Affairs Authority	✓ Ensure availability of the quality goods in Sri Lankan market and take actions against con complied goods
11	Construction Industry Development Authority (CIDA)	✓ Include the parameters in CIDA Standard bidding documents, Enforce to comply with the regulations to the government institutes' procurement mechanism
12	Public Utilities Commission of Sri Lanka	✓ Conduct the Public Consultation. ✓ Preparation of policy advice.

8 The Proposed Transition Process

8.1 Principles of the transition Process

a) Comprehensive and timely disclosure of information about the need to adopt a single national standard for each product including selection and adopting of standards. The transition process to be informed to all stake holders.

b) Owing to the proposed transition, stake holders would not be compelled to discard any water fittings already in operation before the end of its useful economical life. Similarly, goods in transit between the manufacturer and the market, or on the shelves would not be discarded.

8.2 Phasing out the Transition Process

The transition process will be phased out as follows:

(a) Preliminary Period (12 Months, currently in active) : Studies on effect on water leakages, Stakeholders consultations, technical and legal review, preparation of legal documents, stakeholder education and information, formal announcement of the plan of transition to a national standards.

(b) Transition Period (2 Years) : The period during which legal documents are issued, import of relevant water fittings that doesn't comply to standards come to an end in the 6th month of the transition period. Approved water fittings of said categories are introduced to the market. Sale of

relevant water fittings that does not comply to standards will be prohibited at the end of transition period.

(c) Expiry period (5 Years) : only the Standard water fittings of said categories are available for purchasing in the market. Non Standards items already in use are allowed to be used.

(d) Operational Period : Only standards products of said water fitting categories are imported, sold and used in the country. Use of non-standards products are prohibited.

8.3 Issues arising with the standardisation

Issue 1 – Cost increase

The impact of the cost increase was studied using a market survey for FoVs and the outcome is presented in the Appendix B. Comparing cost benefit to customers on increase of life span of products and reducing technicians cost for replacement, use of standard products can be easily justify to relevant stake holders.

Issue 2 – Non Cooperation of Importers

Nearly over 25 Suppliers/dealers / agents are operating in Sri Lanka. However only 8 had submitted applications to register as FOV importers under regulatory scheme. Others continue to import fake and non-standard products and those are available in the market.

This can be curbed only through the strong commitment to enforce the regulations by the stakeholder parties.

Issue 3 – Testing Facilities

Water Fitting Testing Laboratory (WFTL) is established in NWSDB Water complex, Katugastota for facilitate regulatory measures and commissioned/handover to NWSDB . It is proposed to transfer the available instruments in NWSDB Katugastota lab to ITI new facility under construction. Furthermore SLSI & NWSDB are discussing to allocate additional funds from NWSDB through Kandy North –Pathadumbhara Integrated Water Supply Project to ITI to develop any other testing facilities in their new laboratory.

9 Road Map for Transition

The proposed road map for transition into a national standard for each water fitting, is given below. Specific dates are given only for the preliminary period which has already commenced.

Period	Activities
Preliminary Period (12 Months, currently in active starting from 01st July 2018)	Studies on water leakages and products identification
	Discussion with professionals and key institutions.
	Preparation of consultation paper.
	Public /Stake holder consultation and formulating a policy advice.
	Preparation or adoption International Standards as Sri Lankan Standards
	Studies on method of developing testing facilities in Sri Lanka
	Completion of legal documents and standards
Transition Period (2 Years)	Publication of legal documents and standards.
	Import of non-standard water fittings of said categories are banned (06 months after the publishing of import control gazette)
	All previous type water fittings of said categories will be allowed to remain in use. All Non- standard water fittings of said categories will be allowed to sold.
	Penalties are imposed to non-compliance importers who don't comply to the regulations. Items will be ceased.
Expiry period (5 Years)	Import of non-standard water fittings of said categories are banned.
	All Non- standard water fittings of said categories are not allowed to sale.
	Use of nonstandard products which already installed are allowed.
	Penalties are imposed to non- compliance importers dealers & sales out lets
Operational Period	Only standards products of said water fitting categories are imported, sold or used in the country.
	Use of nonstandard products are prohibited.
	Penalties are imposed to non- compliance importers dealers, sales outlets and users.

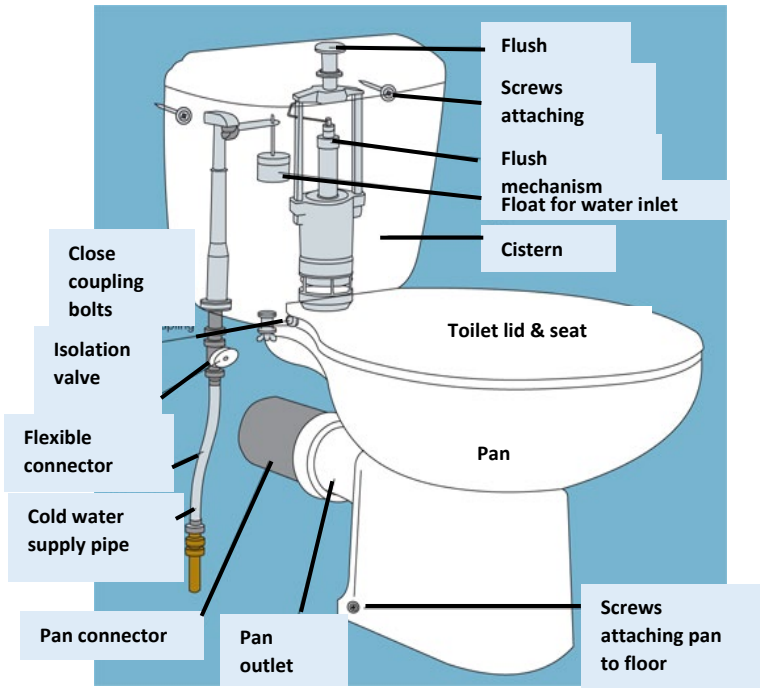
Appendix A

Water Closet (Cisterns), water drawing taps and stop valves currently used in Sri Lanka

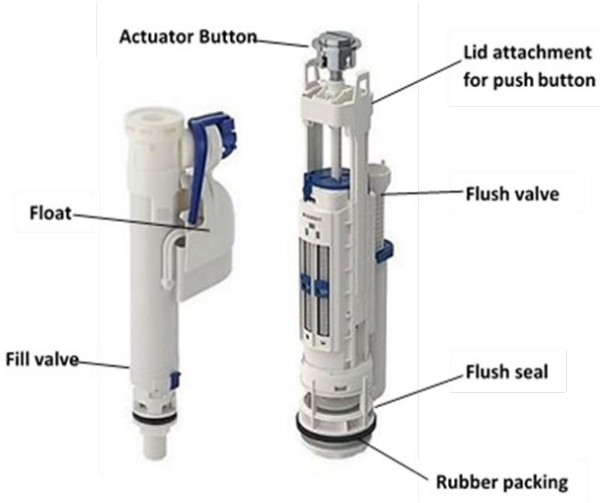
- ❖ **Cistern with Compact Unit**

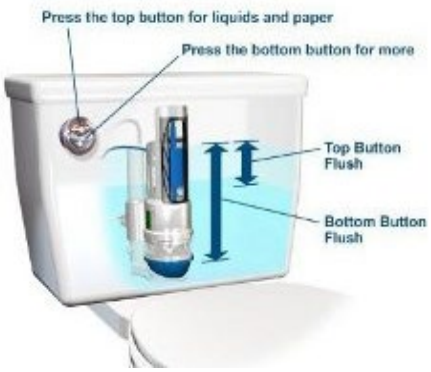
1. **<u>Water Closet (Cisterns)</u>**

WC Suit - One Piece
Pedestal Wash down WC pan
with "P" Trap or "S" Trap



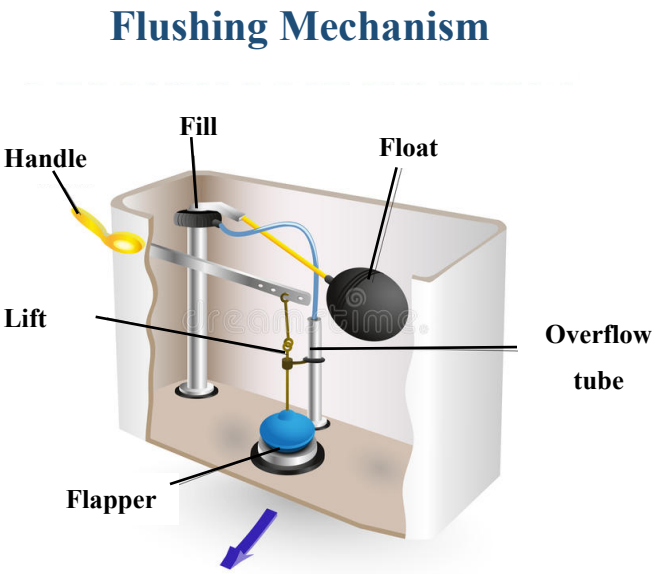
- ❖ **Cistern with Compact Unit**

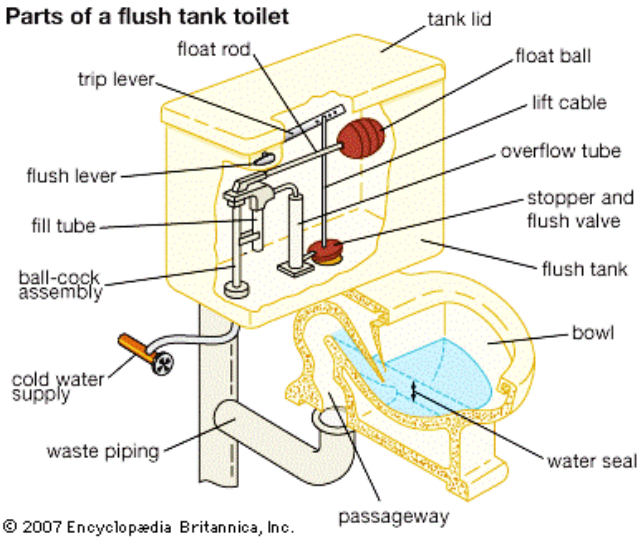


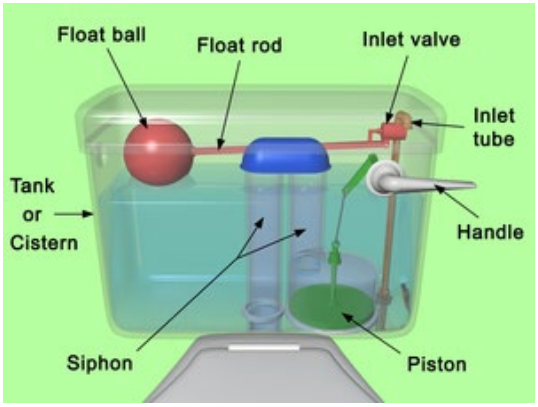


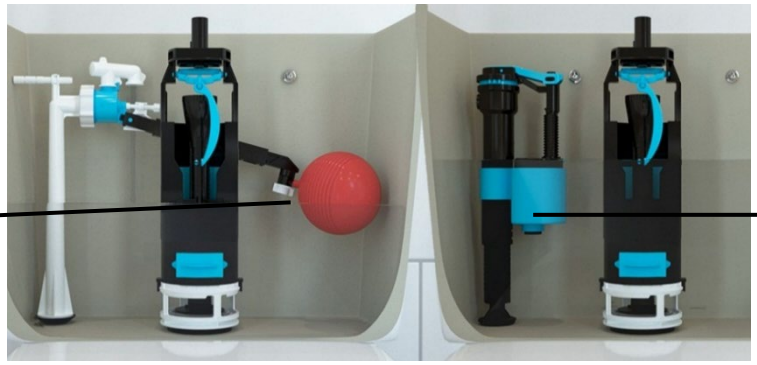
❖ Cistern with Float Operated Valve

WC Suit – Close Coupled; Two pieces
Pedestal Wash down WC pan
with "P" Trap or "S" Trap

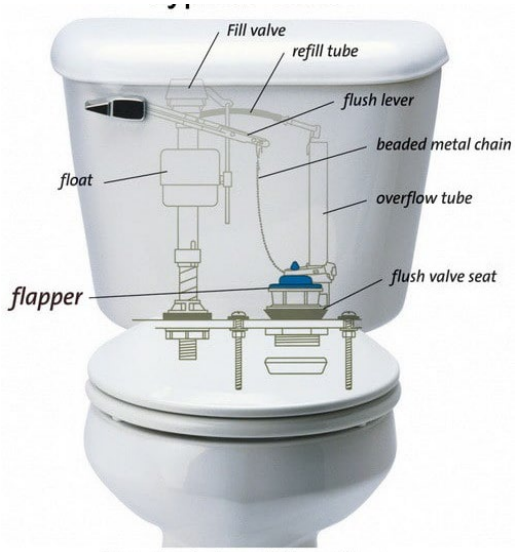


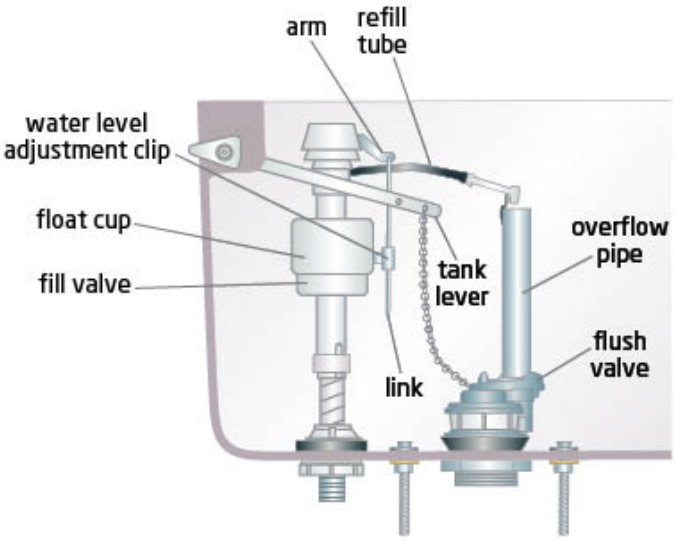


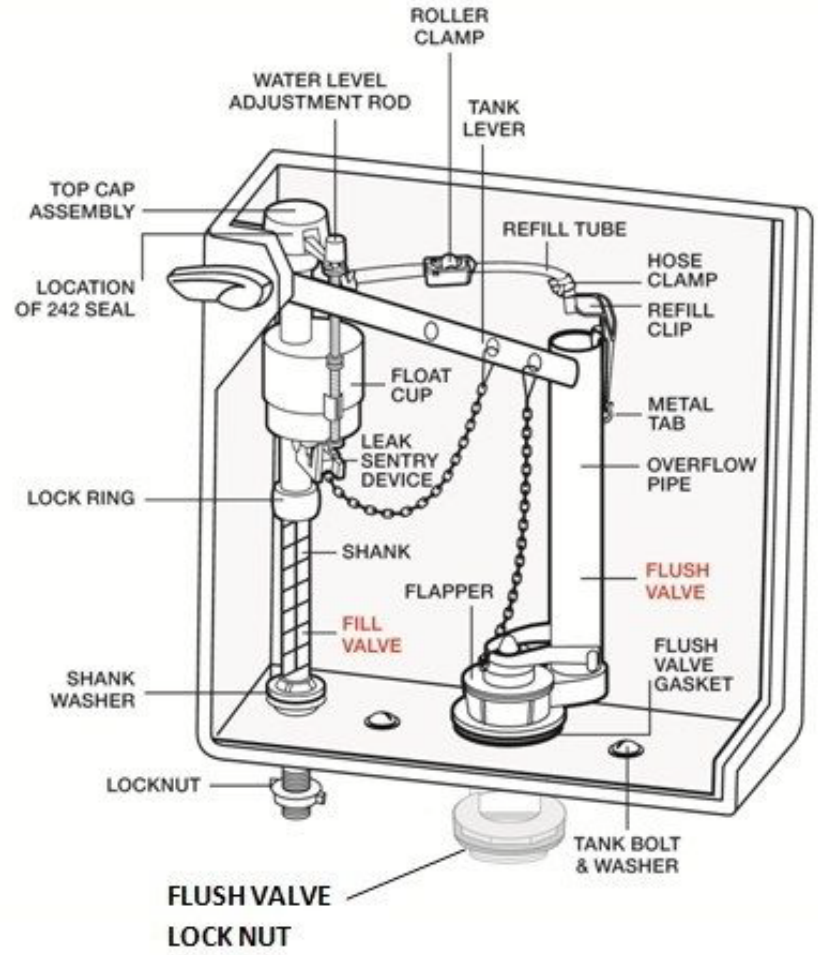




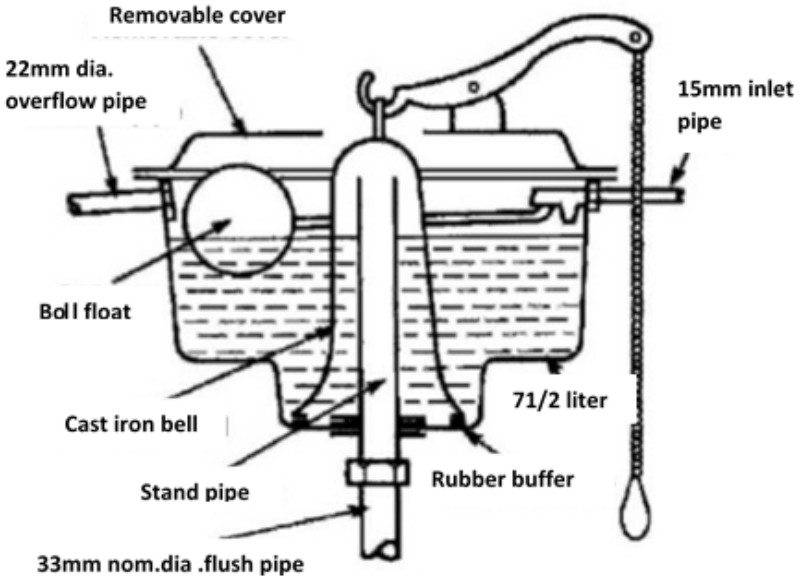
❖ Cistern with float in a shaft







WC Suit - Two pieces; Low level Cistern and Pedestal Wash down WC pan with 'P'-trap



Diaphragm Type

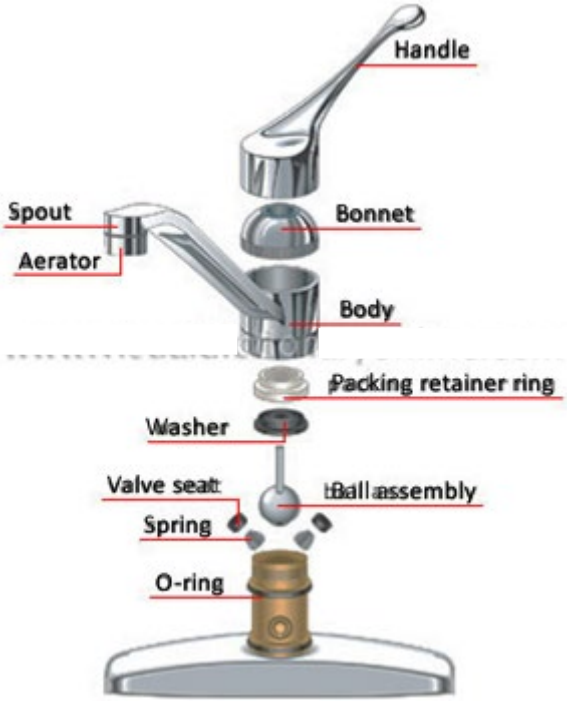
Plunger Type

Floating Cup Type

2. Metal, Copper alloyed draw off taps and stop valves

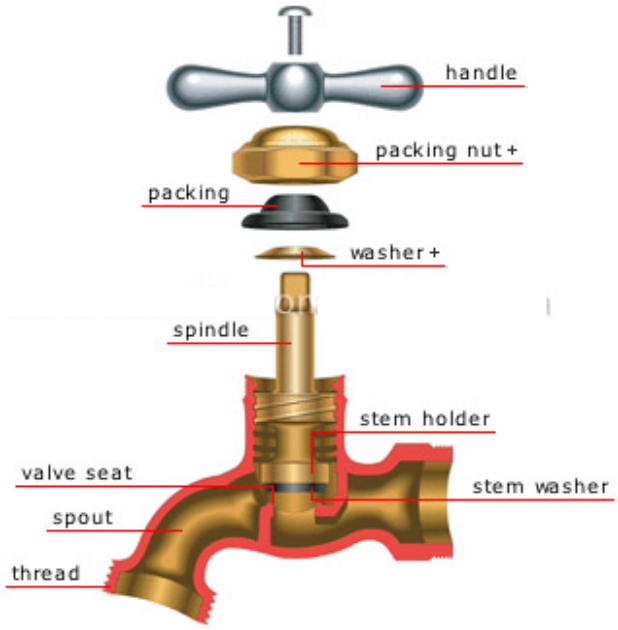
❖ Faucet taps

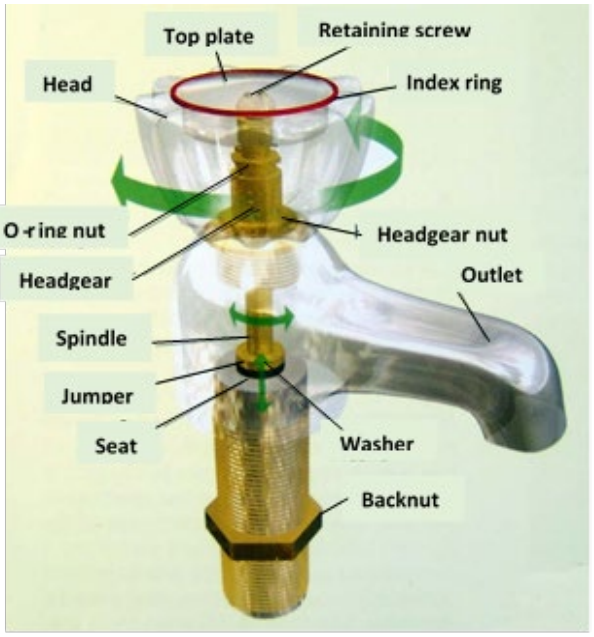
Swan neck tap

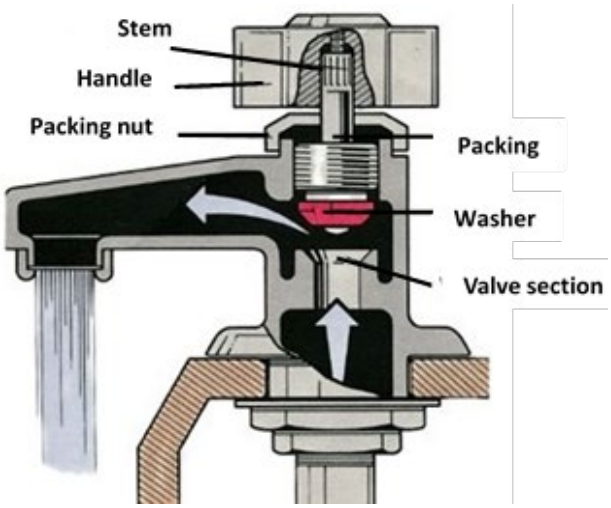


Cross Section of a faucet

❖ Stem rising taps

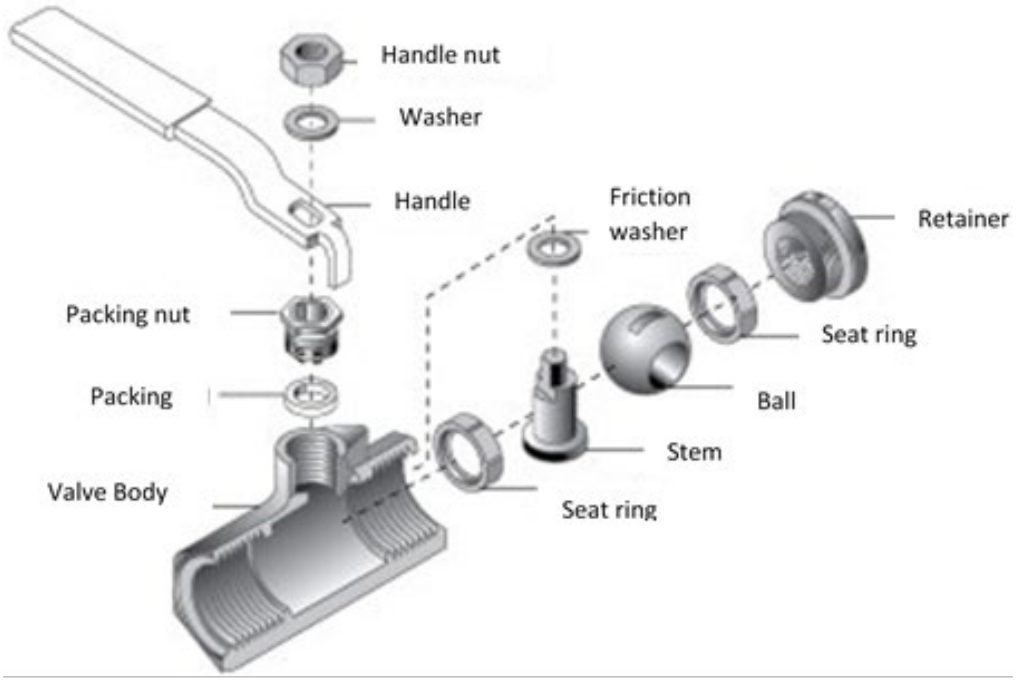






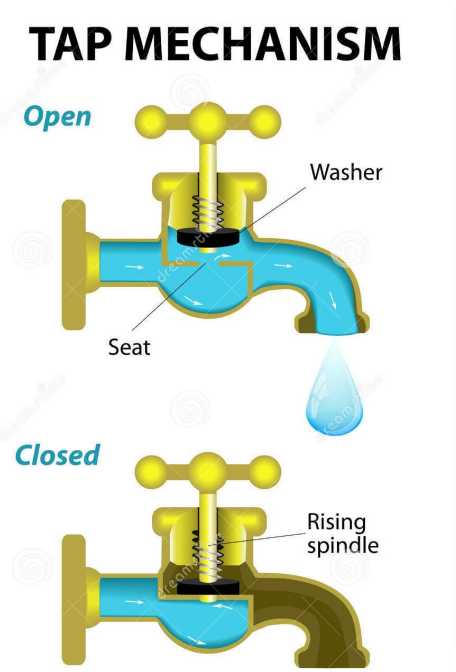
❖ Ball type Stop Valves

Ball

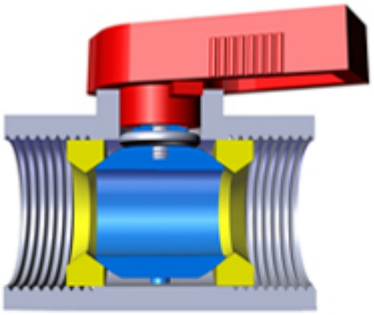


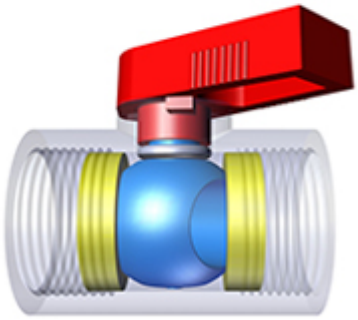
3. PVC Draw off Valves & Stop Valves

- Faucet /Stem up/ Swan taps



❖ Ball type Stop valves





Appendix B

Market Survey For Float Operated Valve - Kandy North Pathadumbara Integrated Supply Project

Sample	Description	Price (LKR)	Remarks
1	Pegler Ball Float Valve 1/2" - BS 1212	2,000.00	Packing Details a) i.) Name : Float Operated Valve ii.) Product Component : Body, Rode & Float iii.)Spare Part : Available b) Manufacture details : Pegler Yorkshire Group Ltd. St.Catherines Avenue, Balby, Doncaster, South Yorkshire, DN4 8DF, Phone 01302 560560 Fax 01302 560203 c) Country Of Manufacture : United Kingdom d) Brand Name : Pegler e) Registration Number Issued by SLSI : FV/2017/01/01 f) Batch Identification Code : g) Float Material : Plastic h) Nominal Size of the valve : 1/2", 1" - 14 Bar & Pressure i) Body Patten : Angle Authorized Importer & Distributer : Raniyo (pvt) ltd, 385/2, Old Kotte Road, Rajagiriya, Sri Lanka, 011 286 7220
2	Pegler Ball Float Valve 1/2" - BS 1212	1,835.00	
3	Pegler Ball Float Valve 1" - BS 1212	8,875.00	
4	Pegler Ball Float Valve 1/2" - BS 1212	2,250.00	
5	Ball Float Valve 1/2" - Kevin - China	1,250.00	Not Complying to BS 1212 or any other standard
6	Ball Float Valve 1/2" - S-lon - China	1,150.00	Not Complying to BS 1212 or any other standard
7	Ball Float Valve 1/2" - Pegler - England	1,200.00	Not Complying to BS 1212 or any other standard
8	Ball Float Valve 1/2" - Boseine	1,500.00	Not Complying to BS 1212 or any other standard

COST ANALYSIS FOR ECONOMIC BENEFIT TO WATER CONSUMER BY USING STANDARD PRODUCT

1	Price of Standard product - Pegler UK		2,000.00
	Minimum life time		6 years
2	Price of Non Standard priduct wirth trade name - Average of above 5, 6, 7, 8		1,275.00
	Average life span		2 Years
3	Cost for Fix FOV Standard Valve	Valve	2,000.00
		Technician	2,500.00
	Cost for 6 years		4,500.00
4	Cost for Fix FOV Non- Standard Valve	Valve	1,275.00
		Technician	2,500.00
	Valve Repacement Cost for 2 years		3,775.00
	Cost for Water Losses during defect identification and Repalcement period, Two weeks,14 m^3, Rs 40 per m^3		560.00
	Cost for 2 years		3,775.00
	Cost for 6 years		11,325.00
5	Direct Cost Benefit to Customer (Note Indirect cost benefit from no risk on water contamination not considered since it cant calaculate)		6,825.00