



水務署
Water Supplies Department

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檔號
Reference (15) in WSD 3318/50 Pt.6

25 August 2017

Distribution: To all Licensed Plumbers and Authorized Persons

Dear Sirs,

WSD Circular Letter No. 7/2017

Submission of Consumption Flow Rates and Installation of Flow Restrictor

The Water Authority (WA) has recently reviewed the performance of water meter and found that the problem of actual flow rate higher than the measurement capacity of the water meter (i.e. undersizing of water meter) was not uncommon in non-domestic supply, e.g. restaurants, temporary water supply for a construction site as specified in Form WWO 542 (hereunder referred to as “temporary construction supply”), etc. This problem has resulted in the water meter becoming defective. In some cases, the excessive draw-off from temporary construction supply also affected the operation of the water supply network in providing a reliable supply to other consumers particularly to those near the extremity of the supply network.

In order to prevent damage to water meters due to undersizing and to avoid the water supply network from being affected by excessive draw-off, this Circular Letter promulgates the following arrangements:

- Submission of calculation and estimation of consumption flow rates for high draw-off rate non-domestic water supply; and
- Installation of flow restrictor for temporary construction supply.

The Water Supplies Department (WSD) has consulted the Technical Committee on Plumbing¹ and obtained support from committee members for implementation of the above arrangements.

(A) Submission of calculation and estimation of consumption flow rates for high draw-off rate non-domestic water supply

For high draw-off rate non-domestic water supply as listed in **Appendix 1**, the Applicant is required to provide a breakdown of the estimated water usage to justify the estimated daily consumption stated in the application (Form WWO 542) submitted together with the plumbing proposal to the WA. The Applicant is also required to state the maximum flow rate, i.e. the hourly draw-off rate in m³/hr, of the pipe connection to the water meter and submit calculation for verifying the size of the pipe connection to the water meter.

The purpose of submitting the above information is for the WA's information and reference with respect to the selection of meter size and checking on adequacy of water supply in existing water supply network. The Applicant should ensure the completeness and correctness of calculation before submitting to the WA. The WA will neither check the correctness of the calculation nor give approval for the calculation. Nevertheless, the WA may reject the plumbing proposal if the calculation is not submitted with the Form WWO 542. Acceptance of the submission by the WA will not release the Applicant's obligations from complying with the relevant requirements in Waterworks Ordinance and Waterworks Regulations for changing of the meter in future if so determined by the WA.

¹ Please refer to the following website for details.

(http://www.wsd.gov.hk/en/plumbing_and_engineering/technical_committee_on_plumbing/index.html)

(B) Installation of flow restrictor for temporary construction supply

For temporary construction supply, a condition will be imposed by the WA in the approval letter to restrict the hourly draw-off rate for the temporary construction water supply according to the flow rate estimated in (A) above. The WA may require for the installation of a flow restrictor, by means of a stainless steel orifice plate at the downstream of the water meter (**Appendix 2**) to restrict the draw-off rate below the “permanent flow rate” of the allocated meter size (**Appendix 3**). The Applicant/Licensed Plumber (LP) is required to make all necessary plumbing arrangements in the inside services, including the provision and installation of a flow restrictor together with the pipework fittings as indicated in the typical details (**Appendix 2**) as determined by the WA, unless otherwise stated in the approval letter.

The LP should submit a duly completed Data Sheet of Flow Restrictor (**Appendix 4**) together with Parts I and II of Form WWO 46 (For the avoidance of doubt, the flow restrictor is not required to be included in the Annex to Form WWO 46.). The Applicant/LP is required to make all necessary arrangements for inspection on the installation of the flow restrictor during the interim/final inspection by the WA. Upon satisfaction in installation of flow restrictor, WSD will provide a security wire and seal for installation in relevant pipes/fittings by the LP under the witness of WSD staff. Any unsatisfactory performance of the Applicant/LP in this aspect may cause delay in issuance of WWO 46 Part V by the WA.

Nonetheless, the WA may consider changing the meter size and/or demand the Applicant/LP to change the orifice diameter of flow restrictor if the WA is satisfied that the actual draw-off rate detected on site has or is likely to be outside the measurable range of the allocated water meter (i.e. from “transitional flow rate” to “overload flow rate”, see **Appendix 3** for reference). The Applicant/LP should make all necessary plumbing arrangements in the inside services at his own cost for the installation of the replacement meter and the provision and installation of replacement flow restrictor of revised size to suit.

For the avoidance of doubt, the requirement of installation of flow restrictor is only applicable to temporary construction supply.

Effective Date and Applicability

The above arrangements stipulated in (A) and (B) will be applicable to new plumbing proposal applications submitted **on or after 25 September 2017**. Subject to review, the WA may extend the arrangements to cover other applications of water supply and replumbing works of inside services which involve change of water consumption rate from low flow to high flow if considered necessary in future.

Enquiry

Should you have any enquiry, please contact our Engineer Mr. Davis C M WAN at telephone no. 2829 4726.

Yours faithfully,

(Original signed)

(Roger WONG)
for Water Authority

Encl.
(with Chinese translation)

c.c.

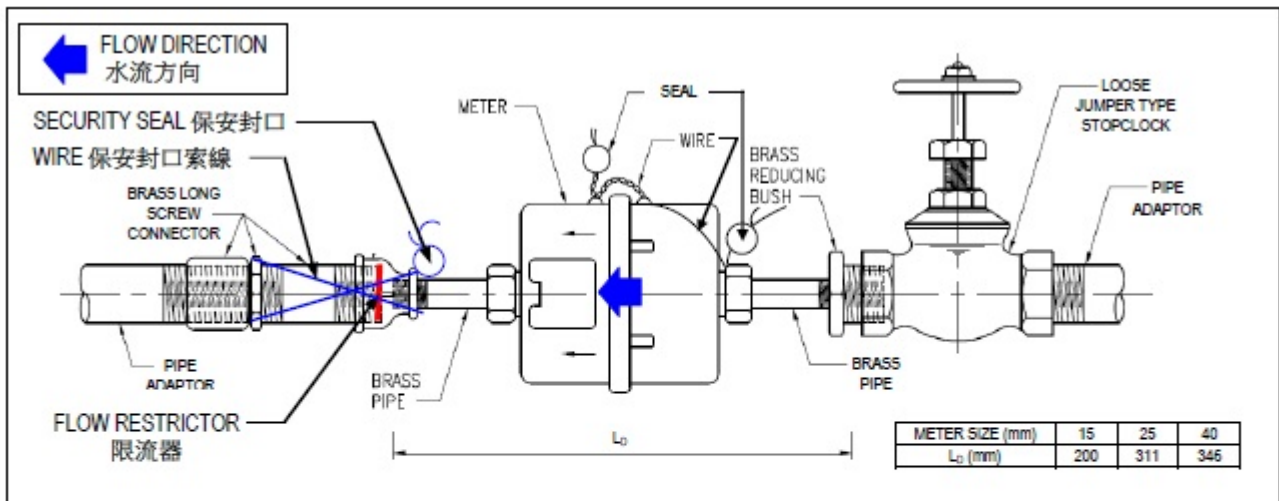
Housing Department (Attn: SM/QM)
Buildings Department
Architectural Services Department
Fire Services Department
The Hong Kong Housing Society
The Hong Kong Institute of Architects
The Hong Kong Institution of Engineers
The Hong Kong Institute of Surveyors
The Chartered Institute of Plumbing and Heating Engineering - Hong Kong Council
Hong Kong Plumbing and Sanitary Ware Trade Association Ltd.
Hong Kong Licensed Plumbing Professionals Association Ltd
Hong Kong Plumbing General Union
Hong Kong Water Works Professionals Association Ltd.
The Hong Kong Institution of Plumbing and Drainage Ltd.
Plumbing Technology Student Association
The Association of Registered Fire Service Installation Contractors of Hong Kong Limited
Real Estate Developers Association of Hong Kong
Hong Kong Institute of Vocational Education
Construction Industry Council
The Hong Kong Construction Association Ltd.
Hong Kong General Building Contractors Association Ltd.
The Hong Kong Federation of Electrical and Mechanical Contractors Ltd.
Contractor's Authorised Signatory Association Ltd.
Registered Minor Works Contractor Signatory Association Ltd.
Hong Kong Registered Contractors Association Company Ltd.
Building Services Operation and Maintenance Executives Society
The Hong Kong Air Conditioning and Refrigeration Association Ltd.
Hong Kong Licensed Plumbers Union Limited
Li Ka Shing Institute of Professional and Continuing Education, The Open University of Hong Kong
The Association of Electrical and Mechanical Engineering (Hong Kong) Ltd.

WSD 3318/15/81

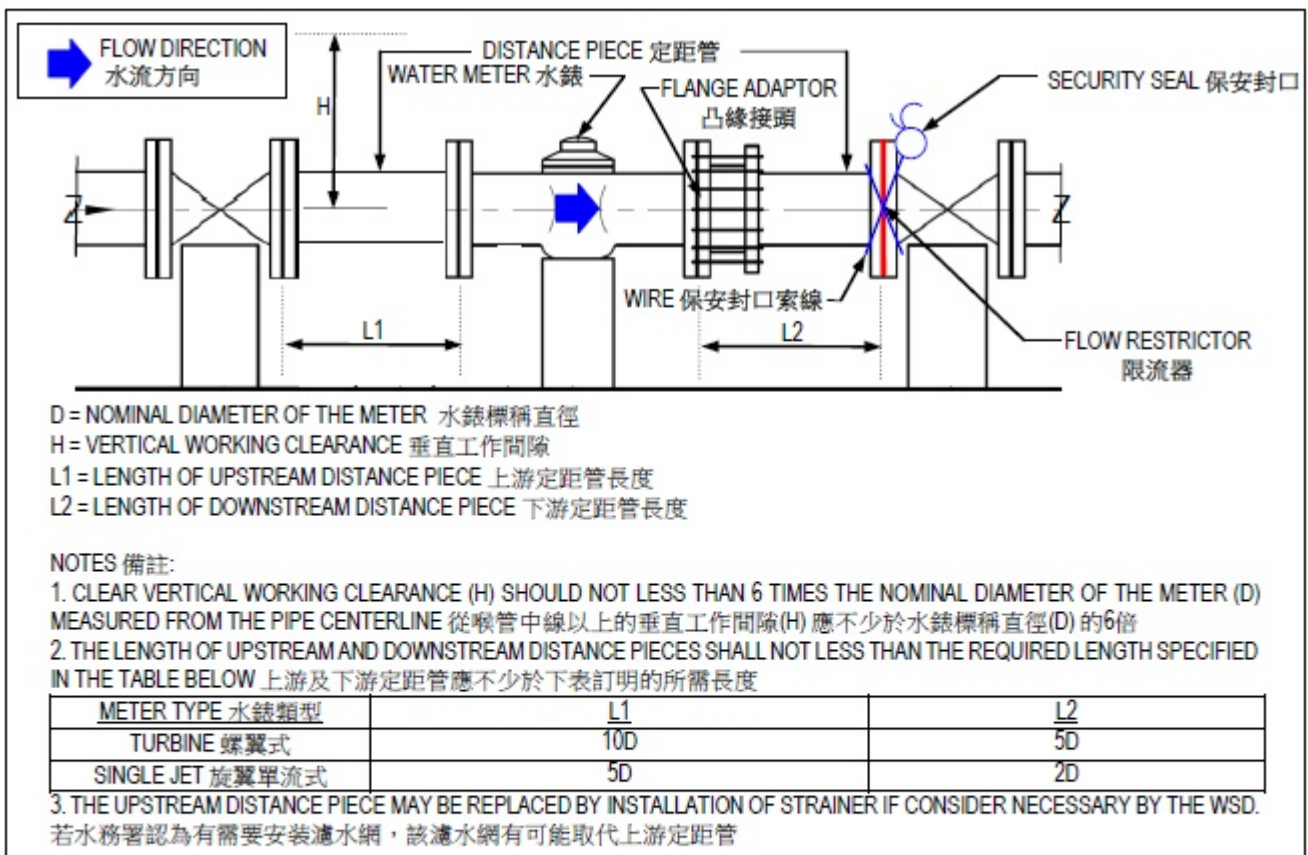
List of High Draw-off Rate Non-Domestic Water Supply
高取水量的非住宅用水列表

Business Account Categories: Classification code 商業用戶類別: 種類編碼	Description 說明 (see Classification of Water Consumer Accounts published in WSD website for details) (詳細說明參閱水務署網頁內水錶用戶分類)
Restaurants 餐館業:	
641100	restaurant – Chinese 餐館業 - 中式
641998	restaurant - other eating places 餐館業 - 其他飲食場所
641200	restaurant - non Chinese 餐館業 - 非中式
641300	restaurant - fast food shops 餐館業 - 快餐店
Construction 建築業:	
599998	construction, decoration, repair & maintenance 建築、裝修、維修和保養
Concessionary Supply (Private) 特許供水(私人):	
030030	cleansing & dust suppression for private use 私人清洗及去塵用水
030060	air conditioning for private use 私人空調設備
030040	gardens lawns and tennis courts for private use 私人花園、草坪及網球場
030020	private swimming pools & boating ponds 私人游泳池及泛舟池
Private Clubs & Institutions 私家會所和機構業:	
938887	private academic & sport institution 私立教育和體育機構
938889	private clubs institution and religious organizations 未有於別處分類的私立會所、機構和宗教組織

Typical Configuration of Flow Restrictor and Security Seal
限流器及保安封口的標準設置



ARRANGEMENT FOR WATER METER WITH DIAMETER OF 15mm to 40mm
直徑 15毫米 至 40毫米水錶的安排



ARRANGEMENT FOR WATER METER WITH DIAMETER OF 50mm OR ABOVE
直徑 50毫米或以上水錶的安排

Operational Range and Specifications of Different Type and Size of Meters 不同類型水錶尺寸的運作範圍和規格

Nominal Size 標稱尺寸	mm 毫米	15	25 (Before 2017 ^{#2})	25 (2017 Onwards ^{#3})	40
Type 類型	-	Rotary Piston 旋轉活塞溶積式			
Overload Flowrate 過載流量, Q ₄ ^{#1}	m ³ /hr 立方米/小時	3.125	7	7.875	20
Permanent Flowrate 常用流量, Q ₃	m ³ /hr 立方米/小時	2.5	3.5	6.3	10
Transitional Flowrate 分界流量, Q ₂	m ³ /hr 立方米/小時	0.025	0.28	0.063	0.8
Minimum Flowrate 最小流量, Q ₁	m ³ /hr 立方米/小時	0.0156	0.08	0.039	0.2

Nominal Size 標稱尺寸	mm 毫米	50	80	100	50	80	100
Type 類型	-	Single Jet 旋翼筆流式			Turbine 螺翼式/Voltmann (Higher Q ₄ 較高)		
Overload Flowrate 過載流量, Q ₄ ^{#1}	m ³ /hr 立方米/小時	30	60	100	90	200	250
Permanent Flowrate 常用流量, Q ₃	m ³ /hr 立方米/小時	15	30	50	50	120	180
Transitional Flowrate 分界流量, Q ₂	m ³ /hr 立方米/小時	0.225	0.45	0.75	1	2	2
Minimum Flowrate 最小流量, Q ₁	m ³ /hr 立方米/小時	0.09	0.18	0.3	0.35	0.5	1.2

Nominal Size 標稱尺寸	mm 毫米	150	200	250	300
Type 類型	-	Turbine 螺翼式/Voltmann (Higher Q ₄ 較高)			
Overload Flowrate 過載流量, Q ₄ ^{#1}	m ³ /hr 立方米/小時	600	1,000	1,500	2,000
Permanent Flowrate 常用流量, Q ₃	m ³ /hr 立方米/小時	450	700	1,000	1,400
Transitional Flowrate 分界流量, Q ₂	m ³ /hr 立方米/小時	4	6	11	15
Minimum Flowrate 最小流量, Q ₁	m ³ /hr 立方米/小時	1.8	4	6	12

Notes:

- ^{#1} The flow rates are the maximum flow rate that a meter of the corresponding size can operate for a short period of time without problem. However, a meter operates continuously at this flow rate would lead to meter malfunction.
此流量為相應尺寸水錶於一段短時間內可操作無誤的最大流量，但水錶持續於此流量操作將導致水錶故障。
- ^{#2} Specification for supply tender issued before 2017
2017 年前標書的規格
- ^{#3} Revised specification for supply tender issued in 2017
2017 年調整新標書的規格

