MEDIDAS DE AGUAS EN CANALES
POR MEDIO DEL
AFORADOR "SIN CUELLO"

POR

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PROLOGO

Es realmente escaso el material escrito en castellano que se encuentra a disposición del técnico en riegos, sobre todo en lo que se refiere a los últimos adelantos científicos y prácticos.

La presente publicación tiene como objeto el contribuir a la literatura técnica en castellano con la presentación de un aforador de aguas relativamente nuevo. Este aforador es conocido en la lengua inglesa como el "Cutthroat Flume" y aquí "bautizado" en castellano como el aforador "Sin Cuello." Este aforador es el resultado de una cadena de estudios teórico-prácticos y a los esfuerzos finales de G.V. Skogerboe, M.L. Hyatt, R.K. Anderson, y K.O. Eggleston (7).

El autor aprovecha esta oportunidad para invitar a los colegas de Latino América a estudiar, y utilizar este nuevo aforador en las prácticas de riego que requieran medir la descarga de aguas en canales.

No pretende el autor el ser considerado como originador del aforador "Sin Cuello" ni de los principios o ecuaciones afines que aquí se presentan, y agradece sinceramente la gentileza de G.V. Skogerboe por suministrar las tablas de descarga y algunas de las figuras que en este trabajo se incluyen.

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INTRODUCCION

Aproximadamente 8 millones de hectáreas se encuentran bajo riego en Latino América y continuamente están surgiendo proyectos para regar nuevas tierras. En estas zonas de riego, existe la constante preocupación de efectuar una eficiente y oportuna distribución de las aguas de regadío. Para este efecto es esencial el medir los volúmenes de agua que fluyen en los canales principales y aquellos aplicados a los campos de cultivos.

Existen en la actualidad un gran número de artefactos utilizados para aforar las aguas de riego. Uno de los más conocidos es el aforador Parshall pero debido a su diseño relativamente complicado, su uso es restringido a los canales principales de obras o proyectos mayores de regadío.

El aforador "Sin Cuello" ofrece prácticamente todas las ventajas del aforador Parshall además de una fácil construcción e instalación y mayor economía.

Para determinar el flujo se presentan las ecuaciones de descarga, nomogramas para flujo libre y tablas. Los nomogramas y tablas pueden ser utilizados por el personal de campo o de oficina para hacer determinaciones rápidas del caudal. Cuando se requiere mayor exactitud es recomendable obtener la descarga desarrollando las ecuaciones pertinentes.

DESCRIPCION GENERAL

El aforador "Sin Cuello" (Cutthroat flume) consiste principalmente de la sección de entrada, la sección de salida, la garganta y la plantilla o fondo del aforador. La sección de entrada está constituída por dos paredes verticales convergentes con una convergencia de 3:1. La sección de salida está formada por dos paredes también verticales pero divergentes con una divergencia de 6:1. La unión de estas dos secciones forma una constricción en la estructura conocida como la "garganta" del aforador. La amplitud de esta garganta es comunmente designada con la letra W. El fondo o plantilla del aforador es plano horizontal en contraste con el aforador Parshall el cual tiene un fondo inclinado en las secciones del cuello y salida.

El tamaño del aforador es generalmente especificado por la amplitud de la garganta, W, y por la longitud total del aforador, L. De esta manera, un aforador de 20 x 90 cm. tendrá una garganta W = 20 cm y una longitud total L = 90 cm.

Tanto la sección de entrada como la sección de salida tienen una amplitud igual denominada por la letra B y cuyo valor está dado por la siguiente equación:

$$B = W + (L/4.5) \qquad [1]$$

o en términos de las longitudes de la sección de entrada, L_1, o de salida, L_2:

$$B = W + 2/3\ (L_1) = W + 1/3\ (L_2) \qquad [2]$$

En la Figura 1 se muestra un diagrama esquemático del aforador sin cuello en donde se indican sus dimensiones básicas.

La descarga en el aforador se obtiene midiendo las profundidades de flujo aguas arriba, h_a, y aguas abajo, h_b, de la garganta. Con el objeto de medir con precisión las profundidades h_a y h_b el medidor deberá estar provisto de dos pozos tranquilizadores. Estos pozos deberán estar colocados a un lado de la estructura y comunicados con ella en un punto bien definido en la sección de entrada y de salida del aforador, a una distancia L_a y L_b aguas arriba y aguas abajo de la garganta respectivamente. Las longitudes L_a y L_b se pueden calcular por medio de las siguientes expresiones:

$$L_a = 2L/9 \qquad [3]$$

$$L_b = 5L/9 \qquad [4]$$

En estos pozos tranquilizadores se pueden colocar flotadores y limnígrafos cuando se requieran mediciones precisas y contínuas.

En situaciones que no requieren mayor precisión, en vez de los pozos tranquilizadores se pueden utilizar escalas propiamente graduadas las cuales se pueden colocar directamente sobre las paredes de la estructura. Sobre este punto se tratará más ampliamente en la sección de "Operación y Mantenimiento."

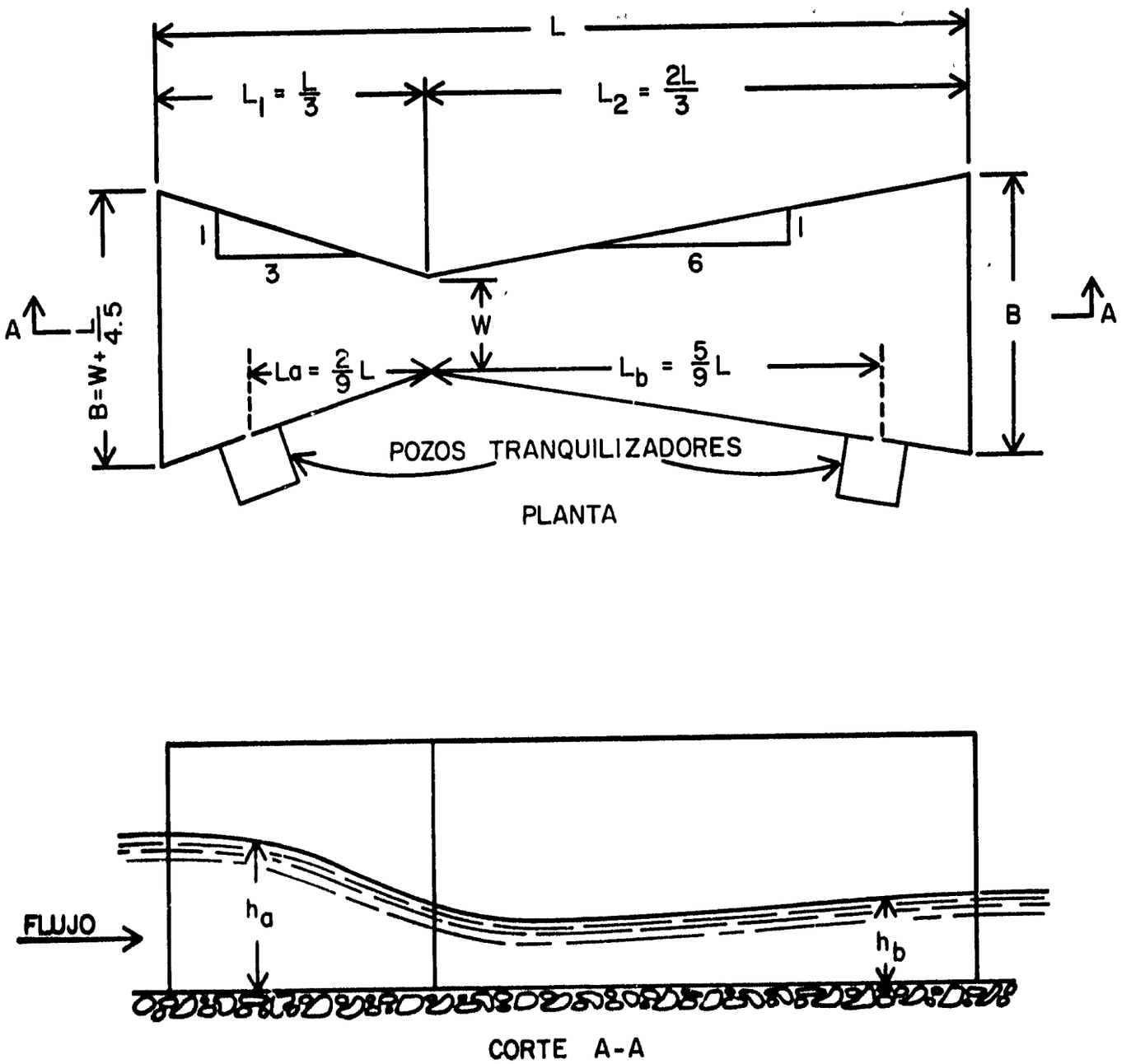


Figura 1. Diagrama esquemático del aforador "Sin Cuello"

DESARROLLO DEL AFORADOR

Uno de los aforadores más conocidos para medir el flujo de agua en canales es el medidor Parshall elaborado en los laboratorios de la Universidad del Estado de Colorado en los EEUU (3). Este aforador está constituído de tres secciones: la sección de entrada de paredes verticales convergentes y de fondo horizontal; la sección de garganta de paredes verticales paralelas y con fondo inclinado hacia abajo; y finalmente, la sección de salida de paredes verticales divergentes con fondo ligeramente inclinado hacia arriba.

Posteriormente se realizaron estudios en los laboratorios de Utah State University (2, 4), con el objeto de investigar las características hidráulicas de una modificación del medidor Parshall, utilizando aforadores de fondo plano horizontal. Estos aforadores de fondo plano horizontal, tienen las ventajas sobre el medidor Parshall de una mayor facilidad y economía en la construcción así como también una más fácil instalación ya sea permanente o transitoria en canales. Estos estudios indicaron que estos aforadores de fondos plano horizontal pueden operar satisfactoriamente ya sea bajo condiciones de flujo libre o sumergido.

Por otro lado estudios sobre el grado de convergencia y de divergencia de las paredes de la sección de entrada y de salida (1, 2), indicaron que la convergencia de las paredes de la sección de entrada debería ser de una magnitud máxima de 3:1, y la divergencia máxima recomendable en la sección de salida de 6:1, con el propósito de evitar la separación del

flujo y su adherencia a las paredes del medidor.

Para determinar un caudal bajo condiciones de flujo sumergido por medio del aforador Parshall, se requiere que además de la profundidad de flujo aguas arriba se mida la profundidad de las aguas en la sección del cuello. Skogerboe y colaboradores (6), demostraron por medio de estudios experimentales utilizando aforadores de fondo plano, que la precisión de las curvas de calibración para el caso de flujo sumergido aumentaba notablemente cuando las medidas de las profundidades de aguas abajo se realizaban en la sección de salida en vez de la sección del cuello del aforador. Esto se debe a que los perfiles de flujo varían rápidamente en la sección de garganta de un aforador de fondo plano horizontal; en cambio las superficies de las aguas resultan casi horizontales en la sección de salida del aforador.

Combinando los resultados de las experiencias antes mencionadas, se diseñó el aforador "Sin Cuello" llamado así por sus autores (7), debido a la ausencia de la sección del cuello. Este aforador se sometió a posteriores estudios (5), de los que resultaron las normas de diseño, instalación, y operación que aquí se presentan.

PRINCIPIOS DE OPERACION

Basado en el principio del flujo crítico como el que puede ocurrir en una sección de control, la relación que existe entre la profundidad de agua y la descarga es definitiva e independiente de otros factores no controlables tales como la rugosidad del canal.

En los aforadores de flujo crítico como el que se describe en este boletín, la profundidad crítica se forma al contraerse la sección del flujo por las paredes divergentes del medidor. El aforador puede operar en condiciones de flujo no sumergido o flujo libre, o bajo condiciones de flujo sumergido.

Flujo Libre

Bajo condiciones de flujo libre la profundidad crítica ocurre en la cercanía de la constricción o garganta del aforador "Sin Cuello." En este caso el caudal no es afectado por las variaciones que puedan ocurrir aguas abajo de la garganta, de manera que la descarga se puede determinar simplemente conociendo la profundidad aguas arriba, h_a, en el aforador.

Flujo Sumergido

Se dice que el aforador "Sin Cuello" opera sumergido cuando las condiciones de flujo aguas abajo son afectadas de tal manera que la resistencia es suficiente para disminuir la velocidad y aumentar la profundidad del flujo, resultando en un aumento de la profundidad de flujo aguas arriba del aforador. Bajo estas condiciones la profundidad de las aguas

en cualquier punto a lo largo del medidor sería mayor que la profundidad crítica.

Para obtener la descarga con el aforador operando bajo condiciones de flujo sumergido se requiere que tanto la profundidad aguas arriba, h_a, como la profundidad aguas abajo, h_b, sean medidas.

El grado de sumersión, S, en un aforador es comúnmente definido por el valor de la razón, expresada en porcentaje, de las profundidades de flujo aguas arriba y aguas abajo de acuerdo a la siguiente relación:

$$S = (h_b/h_a)\ 100 \qquad [5]$$

En general, tal como se puede observar en la Figura 2, el efecto de la sumersión es el de disminuir la descarga en el aforador. Esta disminución principia sin embargo en un valor determinado de sumersión denominado "Sumersión Transitoria," S_t. Cuando el aforador "Sin Cuello" opera con un valor de sumersión por debajo de la Sumersión Transitoria, el flujo no es afectado y se considera como flujo libre. Por otro lado, si la sumersión es mayor que la sumersión transitoria se dice que el aforador está operando sumergido y la descarga se hace menor a medida que aumenta el porcentage de sumersión.

En el aforador "Sin Cuello" el valor de la sumersión transitoria varía de acuerdo con la longitud del aforador tal como se puede observar en la Figura 3. De esta manera, los aforadores "Sin Cuello" de longitud, L, de 90, 180 y 270 cms operan bajo condiciones de flujo libre si la sumersión no excede los valores de sumersión transitoria, S_t, de 65, 74 y 80 porciento respectivamente.

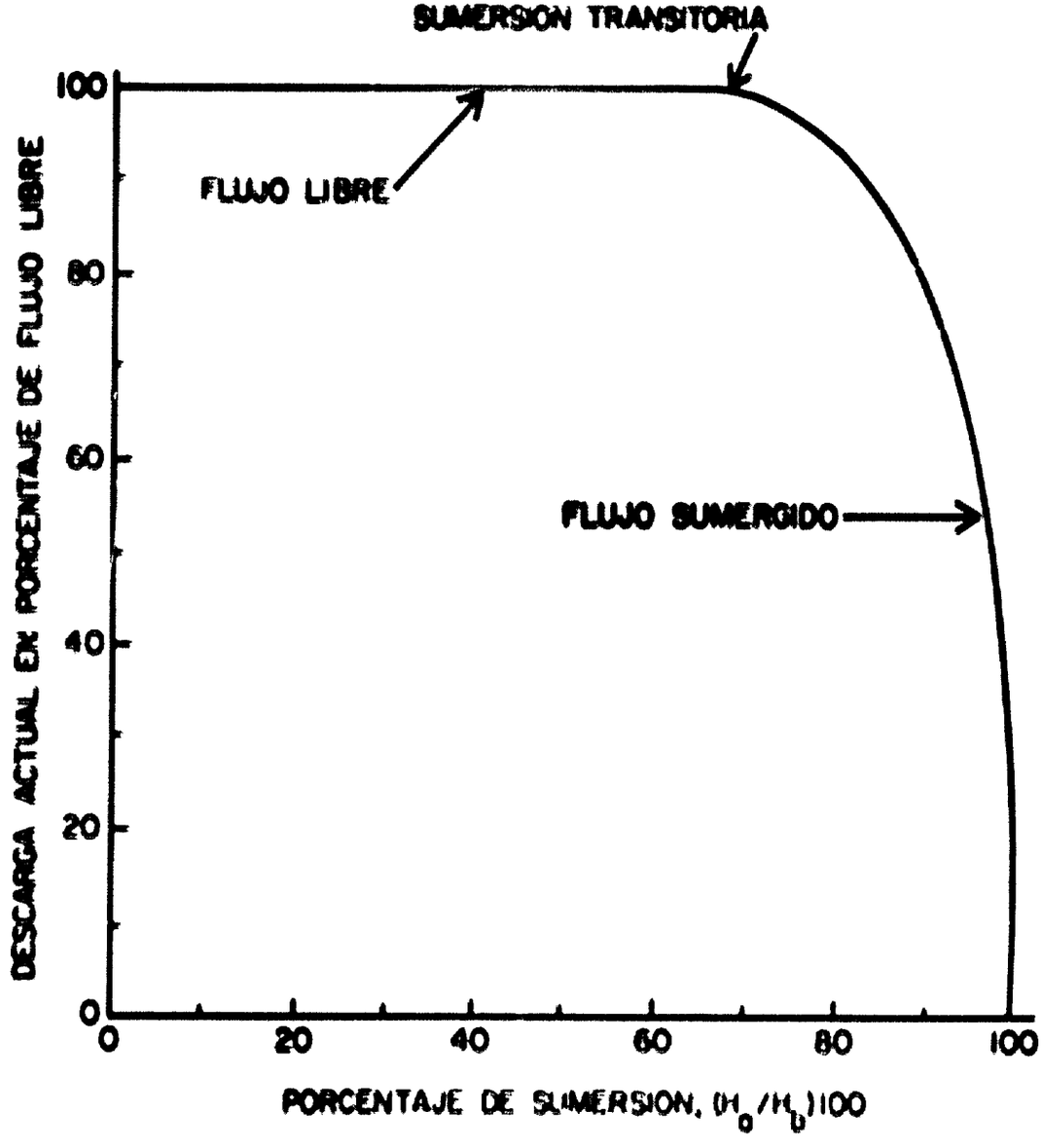


Figura 2. Efecto de la sumersión en el aforador "Sin Cuello" de 30 x 90 cm

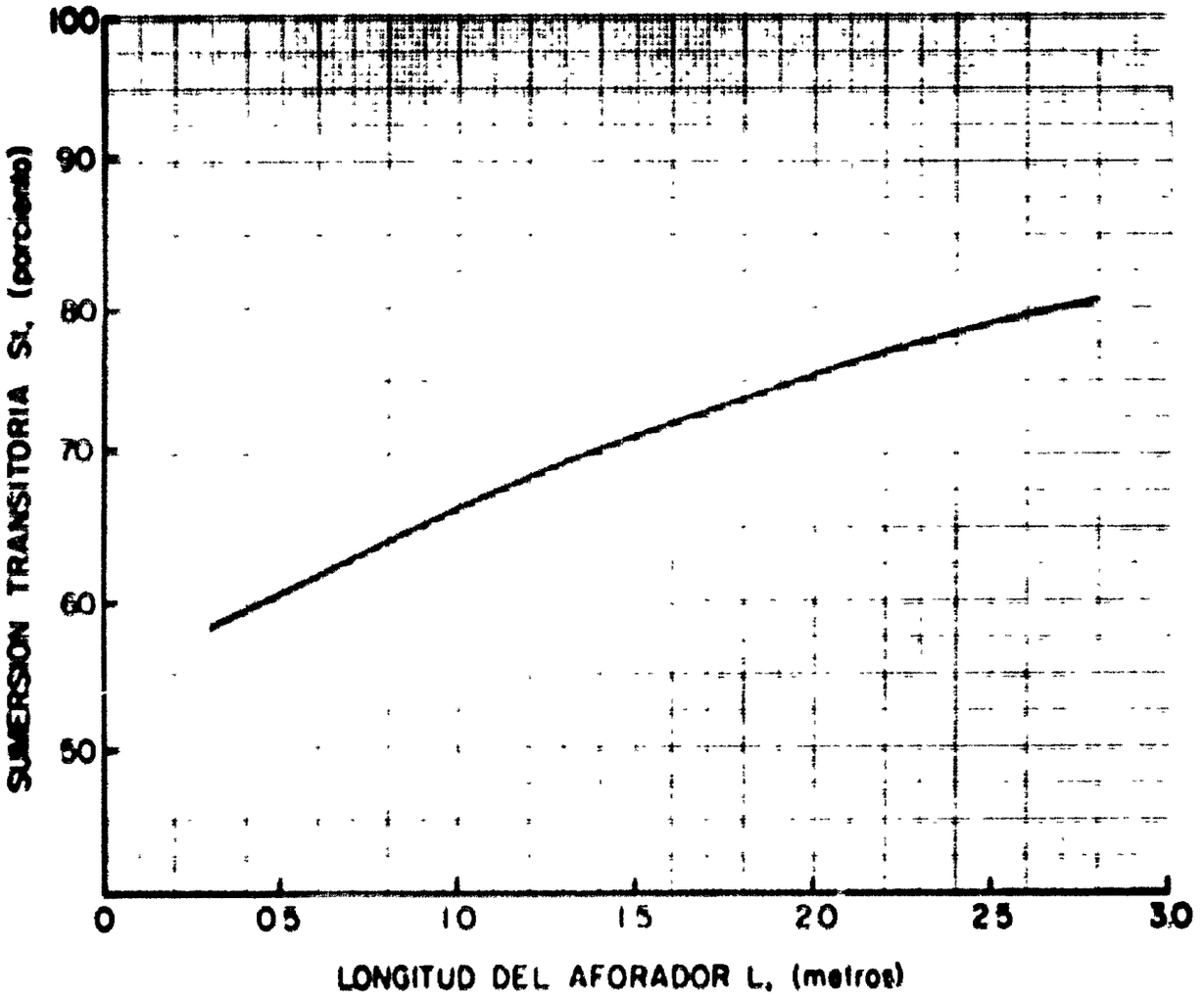


Figura 3. Relación entre la sumersión transitoria, S_t, y la longitud, L, del aforador "Sin Cuello"

ECUACIONES DE DESCARGA

Flujo Libre

Como se mencionó anteriormente la descarga en el aforador "Sin Cuello" operando bajo condiciones de flujo libre está controlada únicamente por la profundidad de flujo aguas arriba, h_a, de acuerdo a la siguiente ecuación:

$$Q = C(h_a)^n \qquad [6]$$

en donde

- Q es la descarga en metros cúbicos por segundo,
- h_a la profundidad de flujo aguas arriba en metros,
- n el exponente de flujo libre, y
- C el coeficiente de flujo libre.

El valor del exponente n depende únicamente de la longitud, L, del aforador siendo de esta manera constante para todos los medidores "Sin Cuello" de una misma longitud, sea cual fuese la amplitud de la garganta W.

Por lo contrario, el valor del coeficiente de flujo libre, C, depende tanto de la longitud, L, del aforador como de la amplitud de su garganta, W. Empíricamente esta función se indica de acuerdo a la siguiente relación:

$$C = K\,W^{1.025} \qquad [7]$$

en donde el parámetro K anteriormente no definido es el coeficiente de longitud del aforador para flujo libre.

La Figura 4, muestra gráficamente la relación que existe entre los valores de K y n con respecto a la longitud, L, del aforador sin cuello.

Flujo Sumergido

Para determinar la descarga cuando el aforador "Sin Cuello" funciona bajo condiciones de flujo sumergido, es necesario medir tanto la profundidad de flujo aguas arriba, h_a, como la profundidad de flujo aguas abajo, h_b. El caudal bajo estas condiciones de flujo se puede determinar utilizando la siguiente relación:

$$Q = C_s \, (h_a - h_b)^n \, / \, (\text{Colog } S)^{n_s} \qquad [8]$$

en donde
- Q es la descarga en metros cúbicos por segundo,
- h_a la profundidad de flujo aguas arriba en metros,
- h_b la profundidad de flujo aguas abajo en metros,
- n el exponente de flujo libre,
- n_s el exponente de flujo sumergido,
- S la sumersión, h_b/h_a, expresada en porcentaje, y
- C_s el coeficiente de flujo sumergido.

Como en el caso del exponente de flujo libre, n, el valor de n_s, también depende únicamente de la longitud del medidor "Sin Cuello," siendo por lo tanto constante para un determinado valor de L sea cual fuese la amplitud de la garganta, W.

El coeficiente de flujo sumergido, C_s, varía en función de la longitud del aforador, L, y de la amplitud de la garganta, W, de acuerdo a

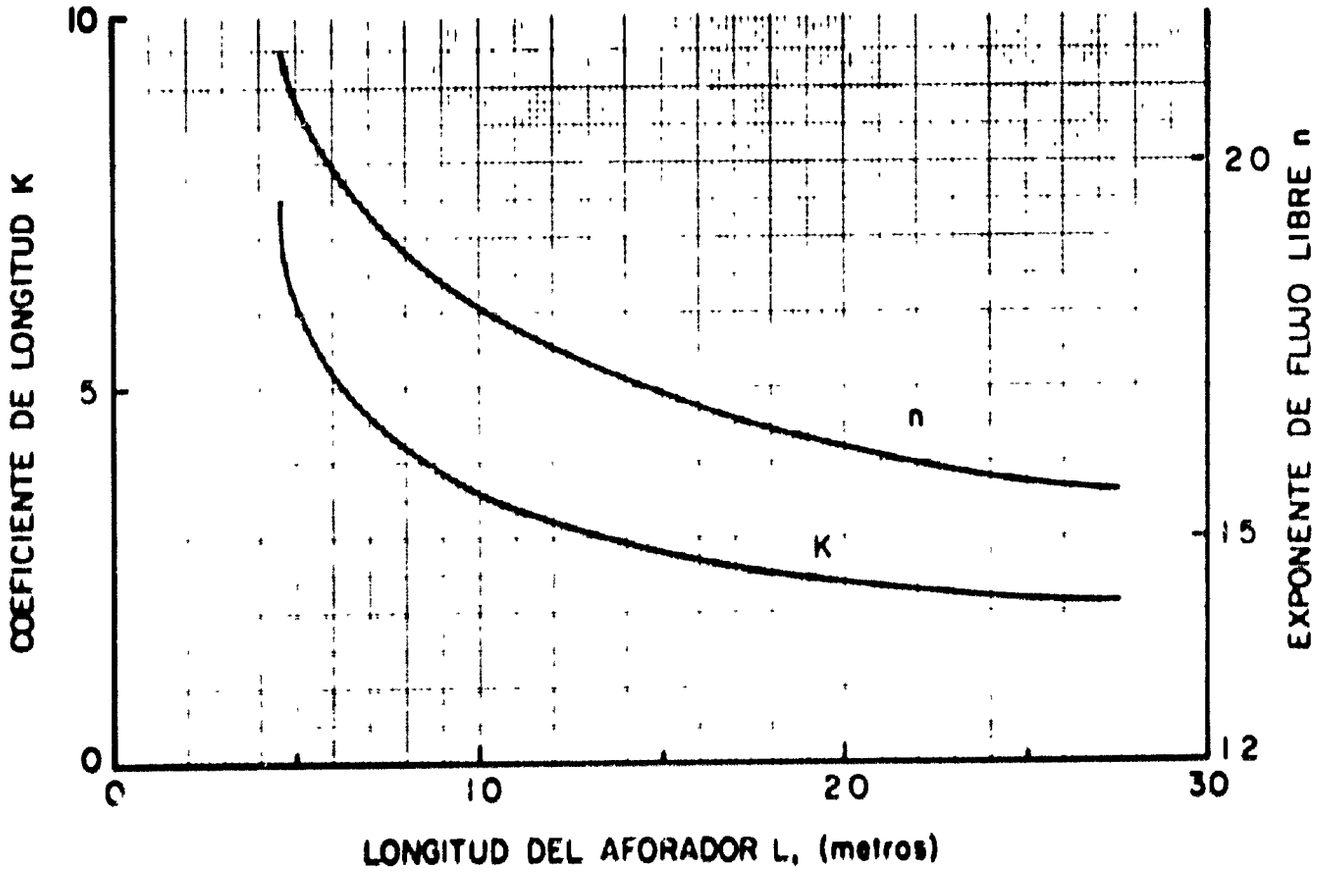


Figura 4. Relación entre el coeficiente de longitud para flujo libre, K, y el exponente de flujo libre, n, con respecto a la longitud, L, del aforador "Sin Cuello"

la siguiente expresión:

$$C_s = K_s \, W^{1.025} \qquad [9]$$

en donde, K_s, es el coeficiente de longitud del aforador para flujo sumergido.

Los valores de k_s y n_s pueden obtenerse directamente de la Figura 5 para cualquier longitud de aforador deseada.

Como se explicó anteriormente, en la sección de Principios de Operación, la Sumersión Transitoria, S_t, es el límite de sumersión entre el flujo libre y el flujo sumergido. Bajo esta condición la descarga puede ser determinada usando ya sea la ecuación para descarga libre o la expresión para flujo sumergido.

Usando el criterio anterior, la Sumersión Transitoria, S_t, puede determinarse igualando las Ecuaciones 6 y 8:

$$C(h_a)^n = C_s \, (h_a - h_b)^n \, / \, (\text{Colog } S)^{n_s} \qquad [10]$$

Al reemplazar h_b por su equivalente $(S.h_a)$ y dividir ambos lados de la Ecuación 10 por $(h_a)^n$ se obtiene la siguiente expresión considerando que el valor de Sumersión corresponde a la Sumersión Transitoria, S_t:

$$(\text{Colog } S_t)^{n_s} = (C_s/C) \quad (1 - S_t)^n \qquad [11]$$

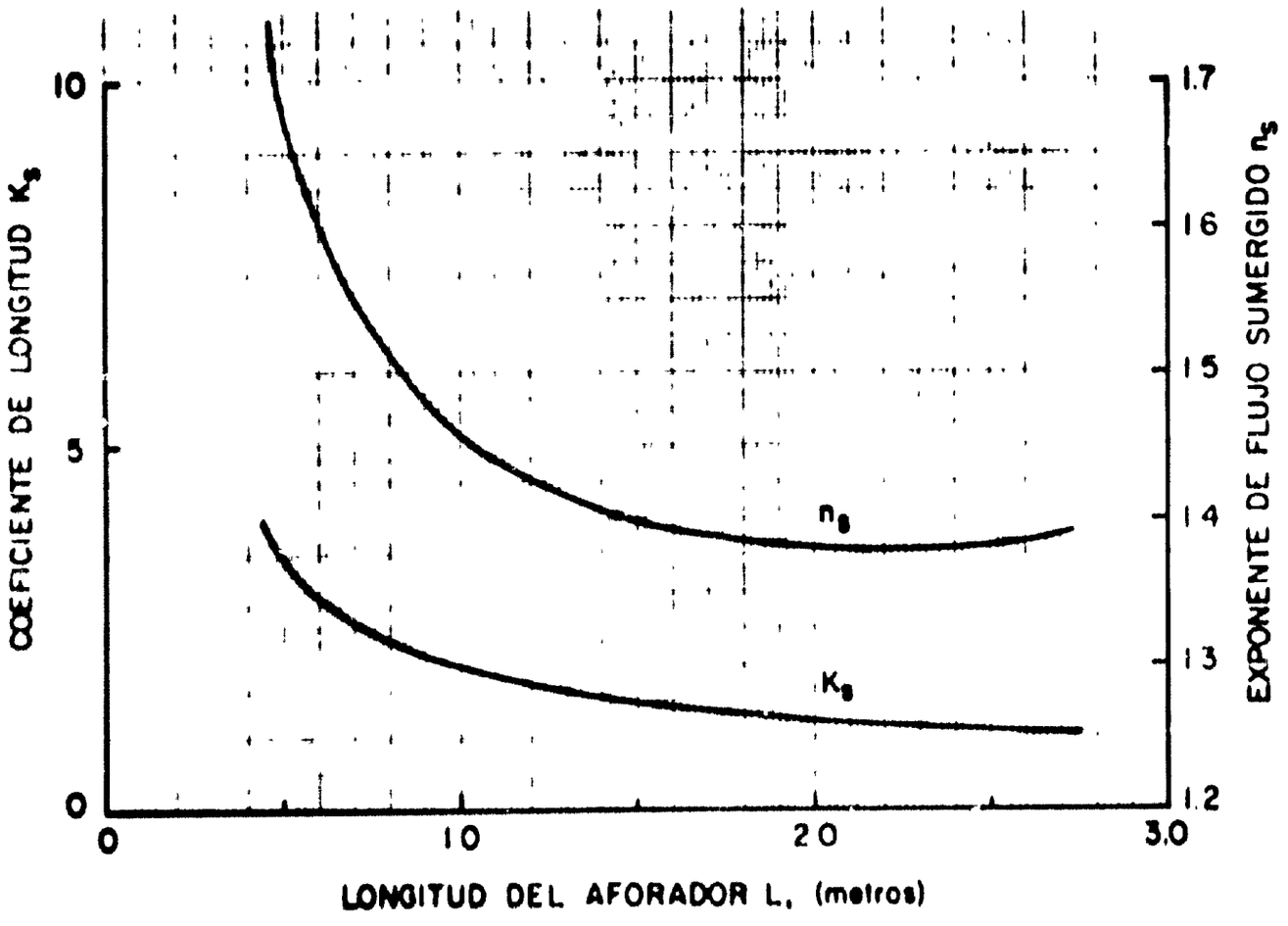


Figura 5. Relación entre el coeficiente de longitud para flujo sumergido K_s, y el exponente de flujo sumergido, n_s, con respecto a la longitud, L, del aforador "Sin Cuello"

Para obtener los valores de S_t, la Ecuación 11 puede resolverse al tanteo.

Gráficamente la Sumersión Transitoria, S_t, se puede obtener directamente de la Figura 3, la que como se mencionó anteriormente, indica la relación que existe entre la longitud del aforador, L, y la Sumersión Transitoria, S_t.

DETERMINACION DEL CAUDAL

El cálculo de la descarga en un aforador "Sin Cuello" propiamente instalado, se puede realizar ya sea haciendo uso de las ecuaciones de descarga, de tablas apropiadas, o de nomogramas.

Una vez que el flujo en el aforador "Sin Cuello" se ha estabilizado, se deberá establecer si el medidor está operando bajo condiciones de flujo sumergido o flujo libre. Con este objeto se deberá medir las profundidades de flujo h_a y h_b y seguidamente determinar si el valor de Sumersión es mayor o menor que el valor de Sumersión Transitoria correspondiente al medidor en uso. De acuerdo a ésto, el flujo será sumergido toda vez que S sea mayor que S_t, y será libre toda vez que S sea menor que S_t.

Caso de Flujo Libre

Supongamos que se desea determinar la descarga en un canal en el cual se ha instalado propiamente un aforador "Sin Cuello" de 20 x 180 centímetros (W = 20 cm, L = 180 cm). Una vez estabilizado el flujo se procede a determinar los valores de h_a y h_b. Supongamos que para nuestro ejemplo estos valores son: $h_a = 0.25$ m y $h_b = 0.10$ m

El valor de Sumersión bajo estas condiciones será de:

$$S = (h_b/h_a)\ 100 = (0.10/0.25)\ 100 = 40\%$$

De la Figura 3, se obtiene que el valor de S_t para un aforador de longitud L = 1.80 m. es de 73.7%. Desde que S es menor que S_t se

concluye que el aforador está operando como flujo libre.

Por medio de ecuaciones

Mayor exactitud en el cálculo del caudal se puede obtener utilizando las ecuaciones de descarga. Para esto se procede primero a calcular el coeficiente de flujo libre, C, de acuerdo con la Ecuación 7.

$$C = K\ W^{1.025} \qquad [7]$$

El coeficiente de longitud del aforador para flujo libre, K, se obtiene directamente de la Figura 4. Para nuestro ejemplo K = 2.48. Entonces,

$$C = 2.48\ (0.20)^{1.025}$$
$$= 2.48\ (0.192)$$
$$= 0.477$$

Una vez determinado el coeficiente C, se obtiene directamente de la Figura 4 el valor del exponente n = 1.65. El caudal se calcula aplicando la Ecuación 6 de la siguiente manera

$$Q = C(h_a)^n \qquad [6]$$

$$= 0.477\ (0.25)^{1.65}$$
$$= 0.477\ (0.102)$$
$$= 0.0487\ m^3/seg.$$

Por medio de tablas

El flujo libre se puede obtener directamente utilizando la Tabla 2.

Para resolver nuestro ejemplo se entra a la Tabla 2 con el valor de h_a = 0.25 metros y bajo la columna correspondiente al aforador de 20 x 180 cm. se lee el caudal de 0.049 m^3/seg, o 49 litros por segundo.

Por medio de nomogramas

Con los Nomogramas especialmente preparados para las condiciones de flujo libre, se puede también determinar directamente la descarga. En nuestro ejemplo entrando al Nomograma 2 con los valores h_a = 25 cm , y W = 20 cm , se puede leer en la escala central que el caudal Q es de 49 litros por segundo. Para determinar la descarga en aforadores de L = 90 cm , y L = 270 cm , operando bajo condiciones de flujo libre se pueden utilizar los Nomogramas 1 y 3 respectivamente.

Caso de Flujo Sumergido

Para ilustrar la determinación de la descarga por medio del medidor "Sin Cuello" operando bajo condiciones de flujo sumergido, se resolverá el ejemplo siguiente por medio de ecuaciones y tablas.

Encontrar la descarga en un canal por medio de un aforador "Sin Cuello" de 20 x 90 centímetros (W = 20 cm, L = 90 cm) en el cual se han determinado los siguientes valores de profundidad de flujo:

$$h_a = 0.27 \text{ m}$$

$$h_b = 0.22 \text{ m}$$

Bajo estas condiciones el valor de Sumersión es:

$$S = (h_b/h_a)\ 100 = (0.22/0.27)\ 100 = 81.5\%$$

De la Figura 3, se obtiene el valor S_t = 65%

Desde que S es mayor que S_t, se concluye que el aforador está

operando sumergido.

A continuación se procede con el cálculo de la descarga.

Por medio de ecuaciones

El caudal se calcula por medio de la Ecuación 8 para lo cual se necesitan los valores de C_s, n_s, y n.

El valor del coeficiente C_s se calcula utilizando la Ecuación 9.

$$C_s = K_s \, W^{1.025} \qquad [9]$$

De la Figura 5 con el valor L = 0.90 m, se obtiene el valor K_s = 2.18

Entonces,

$$C_s = 2.18 \, (0.20)^{1.025}$$
$$= 2.18 \, (0.192)$$
$$= 0.418$$

Los valores de n = 1.84 y n_s = 1.48 se determinan directamente de las Figuras 4 y 5 respectivamente.

Aplicando la Ecuación 8,

$$Q = C_s \, (h_a - h_b)^n \, / \, (\text{Colog } S)^{n_s} \qquad [8]$$

$$= 0.418 \, (0.050)^{1.84} / \, (\text{Colog } 81.5)^{1.48}$$
$$= 0.418 \, (0.0040)/(0.089)^{1.48}$$
$$= 0.00167/0.0277$$
$$= 0.0604 \text{ m}^3/\text{seg}$$

Para facilitar los cálculos se ha preparado la Tabla 1 en donde se encuentran los valores de (Colog S) para varios valores de Sumersión S.

Por medio de tablas

Para determinar el caudal cuando el aforador "Sin Cuello" funciona bajo condiciones de flujo sumergido, se pueden utilizar las Tablas 3 al 11.

En nuestro ejemplo, entrando a la Tabla 4 con los valores h_a = 0.270 m y $(h_a - h_b)$ = 0.050 m se encuentra el valor Q = 0.060 m^3/seg, o 60 litros por segundo.

SELECCION E INSTALACION

Selección del Lugar

La sección de entrada de paredes convergentes del aforador, tiene el propósito de acelerar el flujo y encausarlo para así disminuir las posibles diferencias de velocidad que pueden existir, de manera que cuando el flujo cruce la sección de la garganta se encuentre lo más uniforme posible. Teóricamente se espera que por cada centímetro lineal de garganta pase esencialmente un mismo volumen de agua. Debido a la relativamente corta longitud de la sección de entrada, la redistribución de flujo en esta sección es muy limitada.

Es recomendable que se mantengan adecuadas condiciones de aproximación toda vez que se desee precisión en el aforo. Para ésto se recomienda que el aforador se instale en un tramo recto del canal de manera que el agua entre uniformemente distribuída a la sección convergente, con las líneas de flujo esencialmente paralelas. Por conveniencia el aforador puede instalarse en un punto cercano a la toma de agua o compuerta de regulación, sobre toc en los casos donde las condiciones de operación requieren fluctuaciones contínuas de descarga. Sin embargo, debe tenerse cuidado en no instalar el aforador en un punto muy cercano a la compuerta ya que la operación de la misma podría causar condiciones inestables de flujo las que afectarían su medida. Al mismo tiempo el aforador no deberá instalarse inmediatamente aguas abajo de una alcantarilla o cualquier otro tipo de estructura que cause turbulencia o

constricción del flujo.

Con el objeto de facilitar un mantenimiento adecuado el aforador deberá instalarse en un lugar de fácil acceso.

Después de haber seleccionado el lugar de instalación se deberá de obtener información sobre los flujos máximos y mínimos, así como también las correspondientes profundidades de agua y las dimensiones del canal en el lugar de instalación. Estas dimensiones deberán incluir el ancho y profundidad del canal, los taludes y el bordo libre.

La profundidad del flujo aguas abajo permanecerá esencialmente la misma después de la instalación del aforador, pero la profundidad de flujo aguas arriba aumentará en una magnitud igual a la pérdida de carga en el aforador.

Para el propósito de diseño, las pérdidas de carga se consideran igual a la diferencia de elevación entre las superficies de aguas a la entrada y salida del aforador. El aumento máximo permisible de la profundidad aguas arriba está limitado por la altura del bordo libre del canal aguas arriba del aforador. Si la pérdida de carga es tal que existe el peligro de producirse un desborde de agua, será necesario instalar un aforador de mayor tamaño u operar el aforador bajo condiciones de flujo sumergido. También se debe considerar la posibilidad de aumentar el bordo libre del canal.

Caso de Flujo Libre

Es preferible, toda vez que las circumstancias lo permitan, instalar el aforador "Sin Cuello" de manera que opere bajo condiciones de flujo

libre; es decir que el valor de Sumersión S, no exceda el valor de Sumersión Transitoria, S_t.

Una vez seleccionado el lugar apropiado los pasos a seguir son los siguientes:

1. Determinar las dimensiones del canal y estimar el caudal máximo y el mínimo esperado.
2. Localizar en el lugar de instalación el tirante hidráulico correspondiente al máximo caudal y determinar su profundidad.
3. Calcular el valor h_a máximo en el aforador por usar, correspondiente a la máxima descarga en el canal.
4. Calcular el valor h_b para una sumersión máxima igual a la sumersión transitoria, S_t.

El fondo del aforador deberá colocarse por debajo del nivel del tirante hidráulico, determinado en el segundo paso, a una profundidad máxima igual al valor h_b correspondiente a la sumersión transitoria y al caudal máximo.

En general el fondo del aforador deberá colocarse lo más alto posible de acuerdo a las condiciones del canal que permitan un flujo libre.

Supongamos que se desea instalar un aforador "Sin Cuello" operando bajo condiciones de flujo libre en un canal en el cual se ha determinado lo siguiente:

Q max. = 400 Lts/seg

Q min. = 30 Lts/seg

Taludes: 1:1

Tirante Máximo = 41.5 cm

Fondo o plantilla = 1.25 m

Bordo libre = 12 cm

Al examinar la Tabla 2, vemos que tanto los aforadores de longitud, L, de 180 y 270 centímetros pueden ser utilizados para la descarga máxima de 400 lts/seg. Para estos aforadores los valores de h_a encontrados en la Tabla y correspondientes al caudal máximo son:

Tamaño de aforador (W x L) en cms.	h_a cm.
40 x 180	58.5
60 x 180	45.5
30 x 270	75.0
60 x 270	48.0
100 x 270	34.0

Los valores de sumersión transitoria de S_t = 73.7% para el aforador de L = 180 cm y el de S_t = 79.7% para el aforador de 270 cm de longitud se obtiene directamente de la Figura 3. Las pérdidas de carga en el aforador pueden calcularse multiplicando el valor de h_a por $(1-S_t/100)$. De esta manera, las pérdidas de carga para los aforadores considerados son:

Aforaror	h_a $(1 - S_t/100)$
40 x 180	58.5 (0.263) = 15.4 cm
60 x 180	45.5 (0.263) = 12.0 cm

Aforador	h_a (1 - S_t/100)
20 x 270	75.0 (0.203) = 15.2 cm
60 x 270	48.5 (0.203) = 9.85 cm
100 x 270	34.0 (0.203) = 6.9 cm

Considerando que el bordo libre del canal es de 12 cm el aforador de 60 x 180 cm podría seleccionarse siempre y cuando los bancos del canal puedan ser levantados para evitar el desborde del agua. Si esto no fuese posible, la siguiente selección económica sería el aforador de 60 x 270 cm.

Si al inspeccionar el lugar de instalación se concluye que el aforador de 60 x 180 cm puede ser instalado sin peligro de desborde, se procede a la instalación colocando el piso del aforador a una profundidad por debajo del nivel normal del flujo igual a h_b. Para nuestro caso,

$$h_b = h_a \times S_t = 45.5 \times 0.737 = 33.5 \text{ cm}$$

En la Figura 6, se muestra gráficamente la instalación del aforador de 60 x 180 cm para un caudal máximo de 400 litros/segundo bajo condiciones de flujo libre. Un aforador más pequeño resultaría en una pérdida de carga excesiva y desborde de agua, al menos que se pueda instalar sumergido como veremos a continuación.

Caso de Flujo Sumergido

En el caso de flujo libre se vió que es conveniente el reducir la profundidad aguas arriba lo más posible con el propósito de evitar

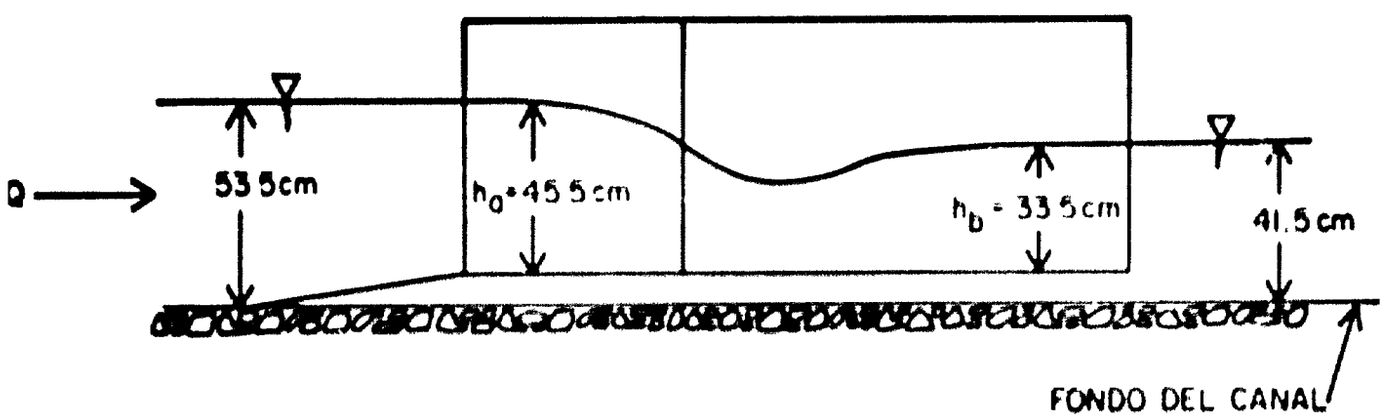


Figura 6. Instalación del aforador "Sin Cuello" de 60 x 180 cm para permitir una mayor facilidad y exactitud al medir las profundidades h_a y h_b

posibles desbordes de agua. Ciertas condiciones tales como poca pendiente en el canal o aumento de tirante hidráulico como resultado del crecimiento de malezas u otras obstrucciones, hacen imposible o impráctico la instalación de un aforador "Sin Cuello" para que opere bajo condiciones de flujo libre. En estas circunstancias se deberá instalar el aforador para que funcione sumergido.

La ventaja principal de instalar un aforador para que funcione sumergido es la de requerir una pérdida de carga en el medidor menor que bajo condiciones de flujo libre. Esta menor pérdida de carga puede significar el que no exista la necesidad de elevar los lancos del canal aguas arriba del aforador para evitar el posible desborde de agua que puede ocurrir con la descarga máxima.

Para que el aforador funcione sumergido es necesario que el piso del medidor sea colocado a nivel y lo más cerca posible al fondo del canal. De esta manera se permitirá un rápido desague de la sección del canal aguas arriba del aforador reduciéndose las pérdidas por percolación, particularmente cuando la descarga es menor que la máxima.

El instalar el aforador "Sin Cuello" para que funcione sumergido requiere los siguientes pasos;

1. Establecer la descarga máxima a medirse, así como también las características del canal.
2. Localizar en las paredes del canal el nivel del tirante hidráulico correspondiente a la descarga máxima.
3. Determinar la máxima pérdida de carga permisible de acuerdo

al borde libre del canal aguas arriba del aforador.

4. Calcular el valor de Sumersión, S.

5. Seleccionar la longitud del aforador deseada.

6. Calcular el valor del coeficiente del flujo sumergido, C_s.

7. Calcular la amplitud mínima de la garganta, W.

Consideremos el mismo canal y condiciones citadas en el caso de flujo libre con la diferencia de que solamente podemos permitir un aumento del tirante hidráulico aguas arriba del aforador de 10 cm. Bajo estas condiciones el aforador deberá instalarse para que opere sumergido y así evitar el desborde de agua.

Los datos tomados entonces son los siguientes:

Q max. = 400 Lts/seg.

Tirante máximo = 41.5 cm

Máxima pérdida de carga = 10 cm

Desde que el aforador deberá colocarse en el fondo del canal, el valor h_b para el máximo caudal de 400 Lts/seg será igual al tirante hidráulico para esa descarga. Entonces h_b = 41.5 cm.

La máxima pérdida de carga permisible en el aforador, h_m, para evitar el desborde de agua es de 10 cm. De esta manera el valor de h_a será:

$$h_a = h_b + h_m = 41.5 + 10.0 = 51.5 \text{ cm}$$

Al examinar las tablas de descarga sumergida (Tablas 4 al 11), se determina que únicamente los aforadores de 180 y 270 cm de longitud pueden utilizarse para la descarga máxima de 400 Lts/seg. La selección

más económica será entonces un medidor de 180 cm de longitud.

Con los valores de h_a y h_b se calcula el valor de Sumersión, S:

$$S = (h_b/h_a)\ 100 = (41.5/51.5)\ 100 = 80.5\%$$

De la Figura 3, se obtiene el valor S_t = 73.7% para un valor L = 180 cm. Desde que S es mayor que S_t se concluye que el aforador funcionará sumergido y seguidamente se determinan los valores de n, K_s, y n_s correspondientes a la longitud L = 180 cm.

$$n = 1.65 \text{ (Figura 4)}$$

$$K_s = 1.35 \text{ (Figura 5)}$$

$$n_s = 1.39 \text{ (Figura 5)}$$

El valor del coeficiente de flujo sumergido C_s, se calcula despejando C_s de la Ecuación 8:

$$C_s = Q\ (\text{Colog } S)^{n_s}/(h_a - h_b)^n \qquad [12]$$

$$= 0.4\ (0.0942)^{1.39}/(0.1)^{1.65}$$

$$= 0.4\ (0.0376)/0.0225$$

$$= 0.668$$

La amplitud mínima de la garganta se calcula despejando W de la Ecuación 9:

$$W = (C_s/K_s)^{0.976} \qquad [13]$$

$$= (0.668/1.35)^{0.976}$$

$$= (0.495)^{0.976}$$

$$= 0.503 \text{ m}$$

De acuerdo a lo calculado la amplitud mínima de la garganta es de 50.3 cm. Si se utiliza un aforador de menor garganta, el valor de h_a será mayor de 51.5 cm y producirá desborde de agua. Si se construye un aforador con los valores calculados, el aforador se podrá instalar en el fondo del canal y los valores de h_a y h_b serán de 51.5 y 41.5 cm respectivamente para el máximo caudal de 400 litros por segundo.

Desde que no existen tablas para esas dimensiones, se seleccionará de las tablas un aforador de longitud L = 180 cm y de una amplitud W mayor que 50.3 cm. La selección más económica para este caso sería el aforador de 60 x 180 cm.

En la Tabla 8, se encuentran directamente los siguientes valores de $(h_a - h_b)$, Q y h_a e indirectamente del valor de h_b:

h_a (m)	$(h_a - h_b)$ (m)	h_b (m)	Q (m^3/seg)
0.470	0.055	0.415	0.403
0.465	0.055	0.410	0.397

Por interpolación se encuentra que para el máximo caudal de 0.400 m^3/seg el valor de h_b es de 0.413 m. El valor h_a será entonces,

$$h_a = h_b + (h_a - h_b)$$
$$= 0.413 + 0.055$$
$$= 0.468 \text{ m}$$

El piso del aforador deberá en este caso instalarse por debajo del tirante máximo a una profundidad igual a la profundidad h_b o sea a 41.3 cm.

Con un poco de experiencia se puede evitar gran parte de los cálculos y utilizar únicamente las tablas para seleccionar y diseñar la instalación de un aforador "Sin Cuello."

Es conveniente hacer notar que el tirante hidráulico para un determinado caudal varía de acuerdo al mantenimiento del canal, sobre todo en canales de tierra debido al crecimiento de malezas. En la práctica el tirante máximo se puede medir directamente si se observa la marca que deja el agua en los bancos del canal.

OPERACION Y MANTENIMIENTO

Las medidas de las profundidades de agua en el aforador pueden hacerse ya sea por medio de simple reglillas graduadas o haciendo uso de pozos tranquilizadores.

Las reglillas pueden ser graduadas en centímetros y milímetros y deberán colocarse verticalmente en los lugares especificados para medir h_a y h_b a una distancia de la garganta de acuerdo a las Ecuaciones 3 y 4. La instalación de estas reglillas deberá hacerse con referencia al fondo del aforador lugar en el cual el valor de h_a y h_b es de cero.

Para lograr una mayor exactitud en las medidas se prefiere el uso de pozos tranquilizadores. Estos pozos tienen la ventaja de producir una superficie de agua calma sin fluctuaciones como las que existen dentro del aforador mismo. Pozos tranquilizadores como los que se muestran en la Figura 7, son necesarios toda vez que se desee utilizar instrumentos de registro contínuo. Bajo condiciones de flujo sumergido se requiere la instalación de pozos adyacentes que permitan una fácil instalación de registradores dobles, los cuales permitirán medir las variaciones de las profundidades h_a y h_b con respecto al tiempo.

Para asegurar una operación satisfactoria es necesario seguir un plan de mantenimiento periódico. En las paredes del aforador muchas veces se acumulan muzgos, lo mismo que incrustaciones en aforadores metálicos las que se pueden eliminar por medio de una escobilla de alambre. Una vez que las paredes metálicas han sido limpiadas se puede aplicar

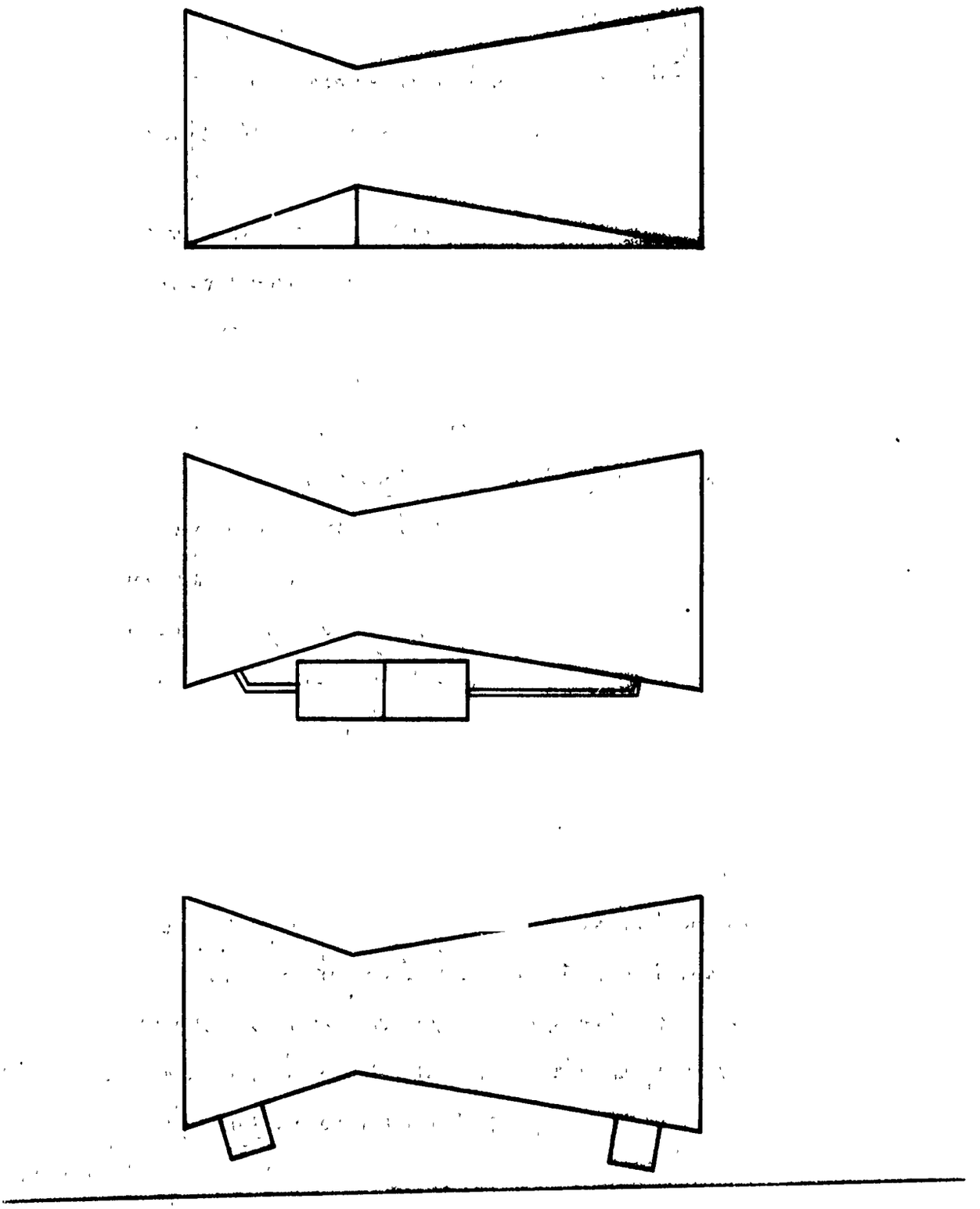


Figura 7. Posibles formas de instalación de pozos tranquilizadores para permitir una mayor facilidad y exactitud al medir las profundidades h_a y h_b

una pintura asfáltica la cual prolongará la vida del aforador y retrazará la formación de incrustaciones. En la sección de entrada se pueden acumular escombros y residuos vegetales, los que deberán eliminarse periódicamente.

El aforador "Sin Cuello," como cualquier otro aforador, está supeditado a asentamientos después de haber estado en operación por un cierto tiempo. Por este motivo el nivel del piso de la sección de entrada deberá ser verificado después de unos pocos meses de operación y nuevamente al final de cada estación de uso o al final del año.

Tanto el asentamiento como una impropia instalación pueden causar una inclinación lateral tal como se ilustra en la Figura 8. Si el asentamiento es de un grado menor, la descarga puede todavía ser estimada con exactitud midiendo las profundidades de flujo a ambos lados del aforador. La descarga entonces deberá ser determinada usando las tablas o ecuaciones y el promedio de las dos lecturas.

La Figura 9, ilustra el asentamiento cerca de la sección de entrada del aforador. Nuevamente se hace recalcar que si el asentamiento no es pronunciado la descarga aún puede ser estimada con una adecuada exactitud.

El asentamiento ocurre más comunmente cerca de la sección de salida como se ilustra en la Figura 10. El asentamiento es más común en esta sección debido a la erosión que ocurre en este lugar como consecuencia de la acción del agua. Bajo estas condiciones el uso de las profundidades h_a y h_b para obtener la descarga por medio de ecuaciones,

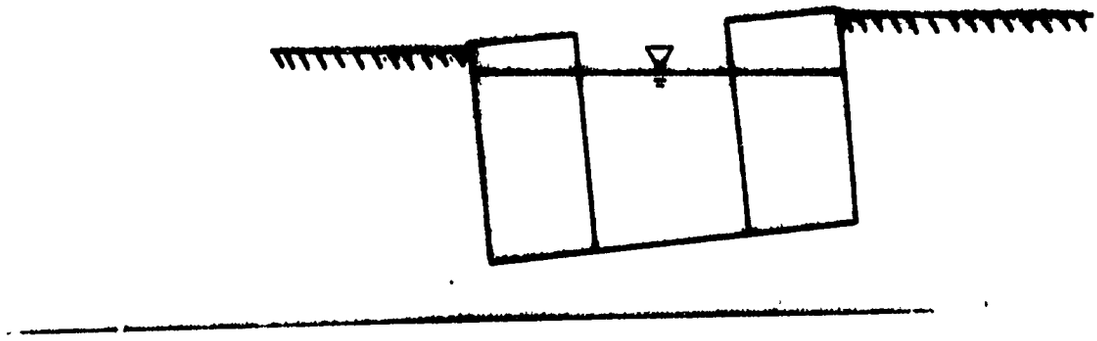


Figura 8. Inclinación lateral

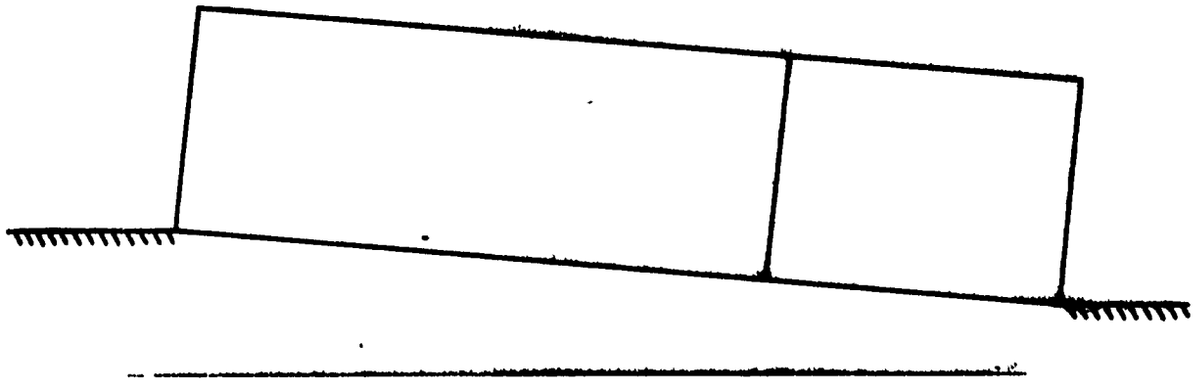
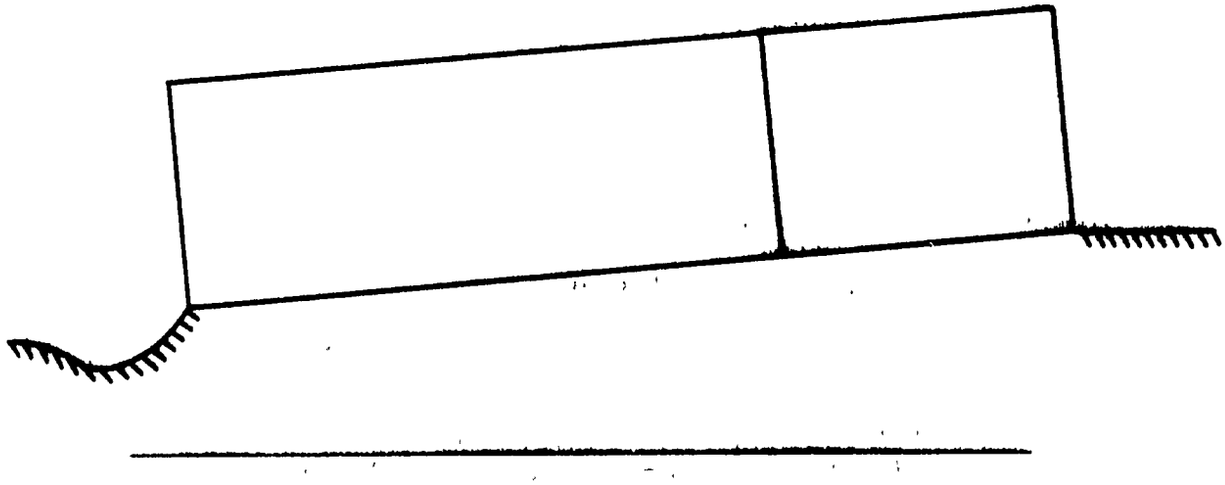


Figura 9. Asentamiento de la sección de entrada



Figrua 10. Asentamiento de la sección de salida

nomogramas o tablas resultarán en valores menores que la descarga verdadera. La discrepancia entre el valor de descarga estimado y el valor de descarga verdadero resulta mayor a medida que el asentamiento aumenta. Soluciones satisfactorias a este problema serían el recobrar el nivel elevando la parte baja del aforador y colocar un nuevo piso a nivel en el aforador.

REFERENCIAS

1. Achers, P., y A.J.M. Harrison. 1963. Critical - Depth Flumes for Flow Measurements in Open Channels. Hydraulic Research Paper No. 6. Estación de Investigación Hidráulica, Departamento de Investigación Científica e Industrial. Wallingford, Berhshire, Inglaterra.

2. Hyatt, M.L. 1965. Design, Calibration, and Evaluation of Trapezoidal Flume by Model Study. Tesis de Masters of Science no publicada. Biblioteca de Utah State University, Logan, Utah, USA.

3. Parshall, R.L. 1926. The Improved Ventury Flume. American Society of Civil Engineer, Transactions. 89:891-880.

4. Robinson, A.R., y A.R. Chamberlain. 1960. Trapezoidal Flumes for Open Channel Flow Measurements. American Society of Agricultural Engineers, Transactions. 3(2):120-124, 128.

5. Shogerboe, G.V., R.S. Bennett, and W.R. Walker. 1972. Installation and Field Use of Cutthroat Flumes for Water Management. Water Management Technical Report No. 19. Colorado State University.

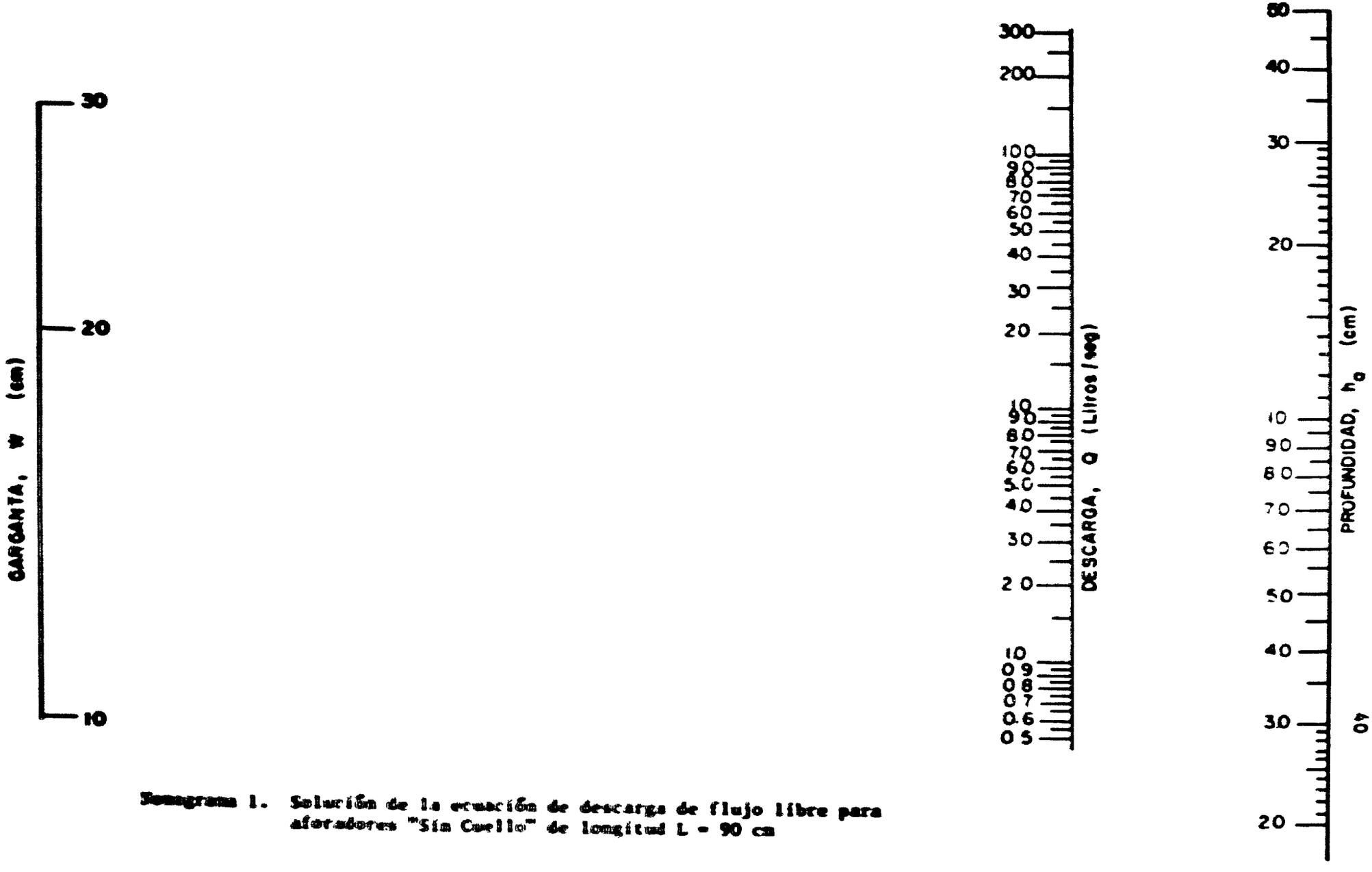
6. Shogerboe, G.V., M.L. Hyatt, y K.O. Eggleston. 1967. Design and Calibration of Submerged Open Channel Flow Measurement Structures: Part 1, Submerged Flow. Report WG 31-2, Utah Water Research Laboratory, College of Engineering, Utah State University.

7. Shogerboe, G.J., M.L. Hyatt, R.K. Anderson, y K.O. Eggleston. 1967. Design and Callibration of Submerged Open Channel Flow Measurement Sturctures: Part 3, Cutthroat Flumes. Report WG 31-4. Utah Water Research Laboratory, College of Engineering, Utah State University.

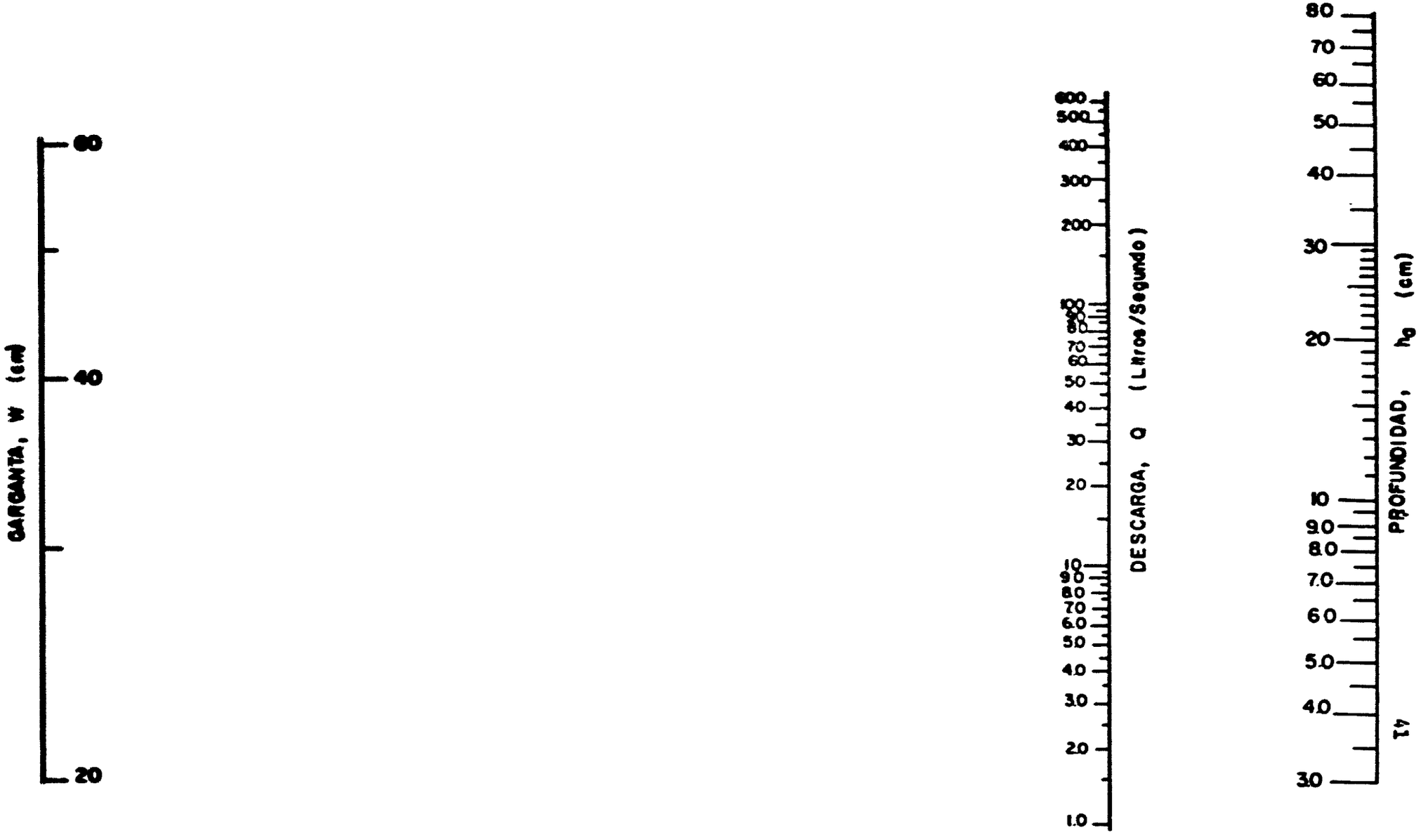
APENDICES

Apéndice A

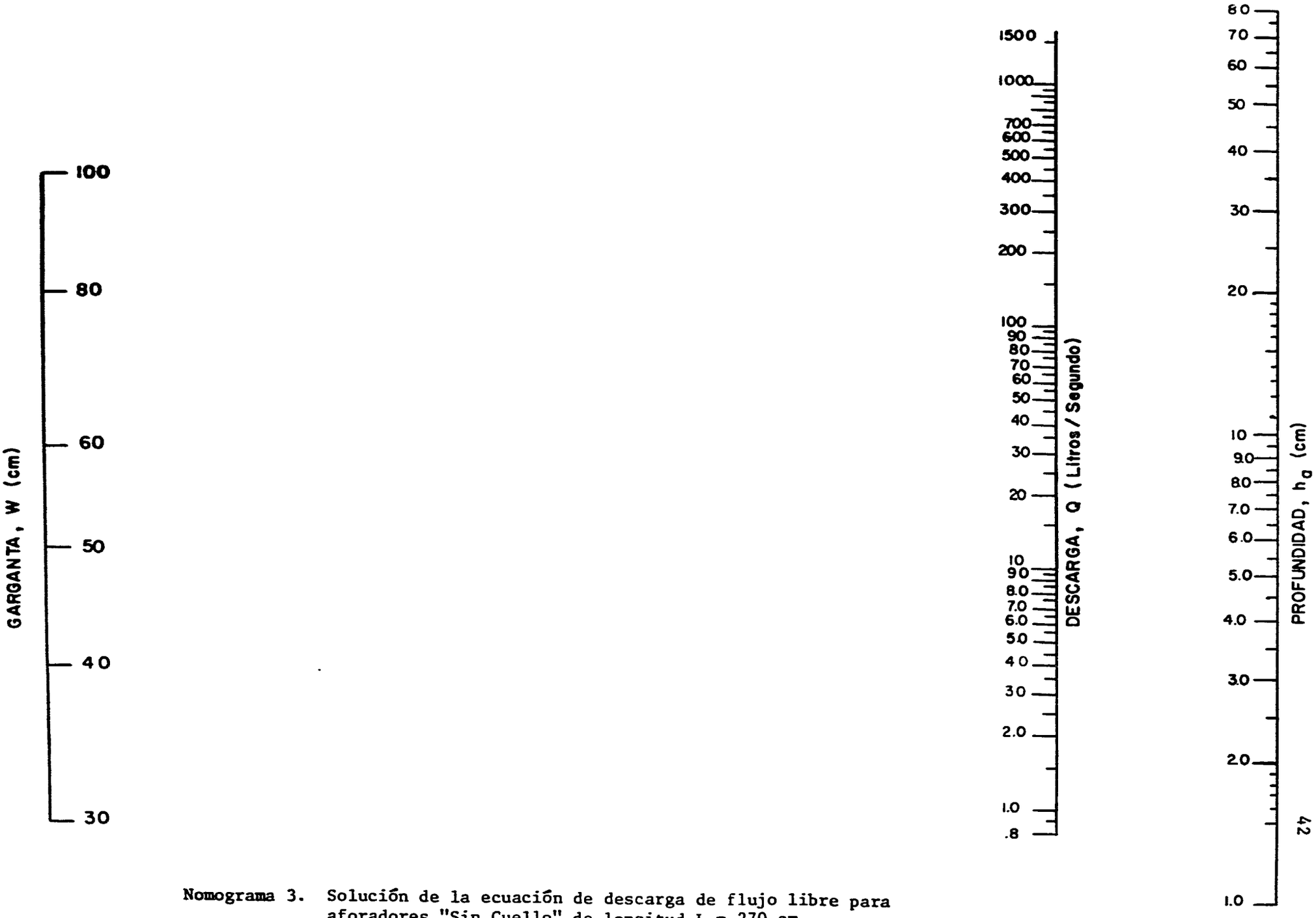
Nomogramas



Nomograma 1. Solución de la ecuación de descarga de flujo libre para aforadores "Sin Cuello" de longitud L = 90 cm



Nomograma 2. Solución de la ecuación de descarga de flujo libre para aforadores "Sin Cuello" de longitud L = 180 cm



Nomograma 3. Solución de la ecuación de descarga de flujo libre para aforadores "Sin Cuello" de longitud L = 270 cm

Apéndice B

TABLAS

Tabla 1. Valores de (Colog S) para varios valores de Sumersión, S.

S	Colog S	S	Colog S
0.65	0.1871	0.83	0.0809
0.66	0.1805	0.84	0.0757
0.67	0.1739	0.85	0.0706
0.68	0.1675	0.86	0.0655
0.69	0.1612	0.87	0.0605
0.70	0.1549	0.88	0.0555
0.71	0.1478	0.89	0.0506
0.72	0.1427	0.90	0.0458
0.73	0.1367	0.91	0.0458
0.74	0.1308	0.92	0.0362
0.75	0.1249	0.93	0.0315
0.76	0.1192	0.94	0.0269
0.77	0.1132	0.95	0.0223
0.78	0.1079	0.96	0.0177
0.79	0.1024	0.97	0.0132
0.80	0.0969	0.98	0.0088
0.81	0.0915	0.99	0.0044
0.82	0.0862		

Tabla 2. Descarga libre en m^3/seg. para various aforadores "sin cuello".

h_a metros	(W x L) centímetros								
	10X90CM	20X90CM	30X90CM	20X180CM	40X180CM	60X180CM	30X270CM	60X270CM	100X270C
.005 *	.000	.000	.000	.000	.000	.000	.000	.000	.001
.010 *	.000	.000	.000	.000	.000	.001	.000	.001	.002
.015 *	.000	.000	.000	.000	.001	.001	.001	.002	.003
.020 *	.000	.001	.001	.001	.002	.002	.001	.003	.005
.025 *	.000	.001	.001	.001	.002	.003	.002	.004	.007
.030 *	.001	.001	.002	.001	.003	.005	.003	.005	.009
.035 *	.001	.002	.002	.002	.004	.006	.003	.007	.011
.040 *	.001	.002	.003	.002	.005	.007	.004	.008	.014
.045 *	.001	.003	.004	.003	.006	.009	.005	.010	.017
.050 *	.001	.003	.004	.003	.007	.011	.006	.012	.020
.055 *	.002	.004	.005	.004	.008	.012	.007	.014	.023
.060 *	.002	.004	.006	.005	.009	.014	.008	.016	.026
.065 *	.002	.005	.007	.005	.011	.016	.009	.018	.030
.070 *	.003	.006	.008	.006	.012	.018	.010	.020	.034
.075 *	.003	.006	.009	.007	.014	.021	.011	.022	.038
.080 *	.003	.007	.011	.007	.015	.023	.012	.025	.042
.085 *	.004	.008	.012	.008	.017	.025	.013	.027	.046
.090 *	.004	.009	.013	.009	.018	.028	.015	.030	.050
.095 *	.005	.010	.014	.010	.020	.030	.016	.032	.054
.100 *	.005	.011	.016	.011	.022	.033	.017	.035	.059
.105 *	.006	.012	.017	.012	.024	.036	.018	.038	.063
.110 *	.006	.013	.019	.013	.026	.039	.020	.040	.068
.115 *	.007	.014	.021	.013	.027	.042	.021	.043	.073
.120 *	.007	.015	.022	.014	.029	.045	.023	.046	.078
.125 *	.008	.016	.024	.015	.032	.048	.024	.049	.083
.130 *	.008	.018	.026	.016	.034	.051	.026	.052	.089
.135 *	.009	.019	.028	.018	.036	.054	.027	.056	.094
.140 *	.010	.020	.030	.019	.038	.057	.029	.059	.099
.145 *	.010	.022	.031	.020	.040	.061	.031	.062	.105
.150 *	.011	.023	.034	.021	.043	.064	.032	.066	.111
.155 *	.012	.024	.036	.022	.045	.068	.034	.069	.117
.160 *	.012	.026	.038	.023	.047	.072	.036	.073	.122
.165 *	.013	.027	.040	.024	.050	.075	.037	.076	.129
.170 *	.014	.029	.042	.026	.052	.079	.039	.080	.135
.175 *	.014	.031	.045	.027	.055	.083	.041	.083	.141
.180 *	.015	.032	.047	.028	.058	.087	.043	.087	.147
.185 *	.016	.034	.049	.030	.060	.091	.045	.091	.154
.190 *	.017	.036	.052	.031	.063	.095	.047	.095	.160
.195 *	.018	.037	.054	.032	.066	.099	.049	.099	.167
.200 *	.018	.039	.057	.034	.068	.104	.051	.103	.174
.205 *	.019	.041	.060	.035	.071	.108	.052	.107	.180
.210 *	.020	.043	.062	.036	.074	.112	.055	.111	.187
.215 *	.021	.045	.065	.038	.077	.117	.057	.115	.194
.220 *	.022	.047	.068	.039	.080	.121	.059	.119	.201
.225 *	.023	.049	.071	.041	.083	.126	.061	.123	.209
.230 *	.024	.051	.074	.042	.086	.130	.063	.128	.216
.235 *	.025	.053	.077	.044	.089	.135	.065	.132	.223
.240 *	.026	.055	.080	.045	.092	.140	.067	.137	.231
.245 *	.027	.057	.083	.047	.096	.145	.069	.141	.238
.250 *	.028	.059	.086	.049	.099	.150	.072	.146	.246

Tabla 2. Continuación. Descarga libre.

h_a metros	(W x L) centímetros								
	10X90CM	20X90CM	30X90CM	20X180CM	40X180CM	60X180CM	30X270CM	60X270CM	100X270C
.255 *	.029	.061	.089	.050	.102	.155	.074	.150	.254
.260 *	.030	.063	.092	.052	.106	.160	.076	.155	.241
.265 *	.031	.066	.096	.053	.109	.165	.078	.159	[illegible]
.270 *	.032	.068	.099	.055	.112	.170	.081	.164	.277
.275 *	.033	.070	.102	.057	.116	.175	.083	.169	.285
.280 *	.034	.073	.106	.059	.119	.180	.085	.174	.293
.285 *	.035	.075	.109	.060	.123	.185	.088	.179	.302
.290 *	.037	.078	.113	.062	.126	.191	.090	.183	.310
.295 *	.038	.080	.116	.064	.130	.197	.093	.188	.318
.300 *	.039	.082	.120	.066	.134	.202	.095	.193	.327
.305 *	.040	.085	.124	.067	.137	.208	.098	.199	.335
.310 *	.041	.088	.127	.069	.141	.213	.100	.204	.344
.315 *	.043	.090	.131	.071	.145	.219	.103	.209	.353
.320 *	.044	.093	.135	.073	.149	.225	.105	.214	.361
.325 *	.045	.096	.139	.075	.152	.231	.108	.219	.370
.330 *	.046	.098	.143	.077	.156	.237	.110	.224	.379
.335 *	.048	.101	.147	.079	.160	.243	.113	.230	.388
.340 *	.049	.104	.151	.081	.164	.249	.116	.235	.397
.345 *	.050	.107	.155	.083	.168	.255	.118	.241	.406
.350 *	.052	.110	.159	.085	.172	.261	.121	.246	.416
.355 *	.053	.112	.164	.087	.176	.267	.124	.252	.425
.360 *	.054	.115	.168	.089	.180	.273	.126	.257	.434
.365 *	.056	.118	.172	.091	.185	.279	.129	.263	.444
.370 *	.057	.121	.177	.093	.189	.286	.132	.268	.453
.375 *	.059	.124	.181	.095	.193	.292	.135	.274	.463
.380 *	.060	.127	.185	.097	.197	.299	.138	.280	.473
.385 *	.062	.131	.190	.099	.202	.305	.140	.286	.482
.390 *	.063	.134	.195	.101	.206	.312	.143	.291	.492
.395 *	.065	.137	.199	.103	.210	.318	.146	.297	.502
.400 *	.066	.140	.204	.105	.215	.325	.149	.303	.512
.405 *	.068	.143	.209	.108	.219	.332	.152	.309	.522
.410 *	.069	.147	.213	.110	.224	.339	.155	.315	.532
.415 *	.071	.150	.218	.112	.228	.345	.158	.321	.542
.420 *	.072	.153	.223	.114	.233	.352	.161	.327	.552
.425 *	.074	.157	.228	.116	.237	.359	.164	.333	.563
.430 *	.076	.160	.233	.119	.242	.366	.167	.339	.573
.435 *	.077	.163	.238	.121	.247	.373	.170	.346	.584
.440 *	.079	.167	.243	.123	.251	.380	.173	.352	.594
.445 *	.080	.170	.248	.126	.256	.388	.176	.358	.605
.450 *	.082	.174	.253	.128	.261	.395	.179	.364	.615
.455 *	***	***	***	.130	.266	.402	.182	.371	.626
.460 *	***	***	***	.133	.270	.409	.185	.377	.637
.465 *	***	***	***	.135	.275	.417	.189	.383	.648
.470 *	***	***	***	.138	.280	.424	.192	.390	.659
.475 *	***	***	***	.140	.285	.432	.195	.396	.669
.480 *	***	***	***	.142	.290	.439	.198	.403	.681
.485 *	***	***	***	.145	.295	.447	.201	.409	.692
.490 *	***	***	***	.147	.300	.454	.205	.416	.703
.495 *	***	***	***	.150	.305	.462	.208	.423	.714
.500 *	***	***	***	.152	.310	.470	.211	.429	.725

Tabla 2. Continuación. Descarga Libre.

h_a metros	(W x L) centímetros								
	10X90CM	20X90CM	30X90CM	20X180CM	40X 60CM	60X180CM	30X270CM	60X270CM	100X270C
.505 *	***	***	***	.155	.315	.477	.214	.436	.737
.510 *	***	***	***	.157	.321	.485	.218	.442	.748
.515 *	***	***	***	.160	.326	.493	.221	.450	.760
.520 *	***	***	***	.162	.331	.501	.224	.457	.771
.525 *	***	***	***	.165	.336	.509	.228	.463	.783
.530 *	***	***	***	.168	.342	.517	.231	.470	.794
.535 *	***	***	***	.170	.347	.525	.235	.477	.806
.540 *	***	***	***	.173	.352	.533	.238	.484	.818
.545 *	***	***	***	.176	.358	.541	.242	.491	.830
.550 *	***	***	***	.178	.363	.550	.245	.498	.842
.555 *	***	***	***	.181	.369	.558	.249	.505	.854
.560 *	***	***	***	.184	.374	.566	.252	.513	.866
.565 *	***	***	***	.186	.380	.575	.256	.520	.878
.570 *	***	***	***	.189	.385	.583	.259	.527	.890
.575 *	***	***	***	.192	.391	.591	.263	.534	.902
.580 *	***	***	***	.195	.396	.600	.266	.541	.914
.585 *	***	***	***	.197	.402	.609	.270	.549	.927
.590 *	***	***	***	.200	.408	.617	.273	.556	.939
.595 *	***	***	***	.203	.414	.626	.277	.563	.952
.600 *	***	***	***	.206	.419	.635	.281	.571	.964
.605 *	***	***	***	***	***	***	.284	.578	.977
.610 *	***	***	***	***	***	***	.288	.586	.989
.615 *	***	***	***	***	***	***	.292	.593	1.002
.620 *	***	***	***	***	***	***	.295	.601	1.015
.625 *	***	***	***	***	***	***	.299	.608	1.028
.630 *	***	***	***	***	***	***	.303	.616	1.040
.635 *	***	***	***	***	***	***	.307	.624	1.053
.640 *	***	***	***	***	***	***	.310	.631	1.066
.645 *	***	***	***	***	***	***	.314	.639	1.079
.650 *	***	***	***	***	***	***	.318	.647	1.092
.655 *	***	***	***	***	***	***	.322	.655	1.106
.660 *	***	***	***	***	***	***	.326	.662	1.119
.665 *	***	***	***	***	***	***	.330	.670	1.132
.670 *	***	***	***	***	***	***	.333	.678	1.145
.675 *	***	***	***	***	***	***	.337	.686	1.159
.680 *	***	***	***	***	***	***	.341	.694	1.172
.685 *	***	***	***	***	***	***	.345	.702	1.186
.690 *	***	***	***	***	***	***	.349	.710	1.199
.695 *	***	***	***	***	***	***	.353	.718	1.213
.700 *	***	***	***	***	***	***	.357	.726	1.226
.705 *	***	***	***	***	***	***	.361	.734	1.240
.710 *	***	***	***	***	***	***	.365	.742	1.254
.715 *	***	***	***	***	***	***	.369	.750	1.268
.720 *	***	***	***	***	***	***	.373	.759	1.281
.725 *	***	***	***	***	***	***	.377	.767	1.295
.730 *	***	***	***	***	***	***	.381	.775	1.309
.735 *	***	***	***	***	***	***	.385	.784	1.323
.740 *	***	***	***	***	***	***	.389	.792	1.337
.745 *	***	***	***	***	***	***	.393	.800	1.352
.750 *	***	***	***	***	***	***	.398	.809	1.366

Tabla 3. Descarga Sumergida en m^3/seg., para el aforador "sin cuello" de 10 x 90 centímetros

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.015 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.020 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.025 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.030 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.035 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.040 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.045 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.050 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.055 *	.001	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.060 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.065 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.070 *	.002	.002	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.075 *	.002	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.080 *	.002	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.085 *	.003	.003	.003	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.090 *	.003	.003	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.095 *	.003	.004	.004	.004	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.100 *	.003	.004	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.105 *	.004	.004	.005	.005	.005	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.110 *	.004	.005	.005	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.115 *	.004	.005	.006	.006	.006	.006	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.120 *	.004	.005	.006	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.125 *	.005	.006	.006	.007	.007	.007	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
.130 *	.005	.006	.007	.007	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
.135 *	.005	.007	.007	.008	.008	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.140 *	.006	.007	.008	.008	.009	.009	.009	.009	.009	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010
.145 *	.006	.007	.008	.009	.009	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010
.150 *	.006	.008	.009	.009	.010	.010	.010	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011
.155 *	.006	.008	.009	.010	.010	.011	.011	.011	.011	.011	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.160 *	.007	.008	.010	.010	.011	.011	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.165 *	.007	.009	.010	.011	.011	.012	.012	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013
.170 *	.007	.009	.010	.011	.012	.013	.013	.013	.013	.013	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.175 *	.008	.010	.011	.012	.013	.013	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.180 *	.009	.010	.011	.012	.013	.014	.014	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015
.185 *	.008	.011	.012	.013	.014	.014	.015	.015	.015	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
.190 *	.009	.011	.012	.014	.014	.015	.015	.016	.016	.016	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017
.195 *	.009	.011	.013	.014	.015	.016	.016	.017	.017	.017	.017	.017	.017	.018	.018	.018	.018	.018	.018	.018
.200 *	.009	.012	.013	.015	.016	.016	.017	.017	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018
.205 *	.010	.012	.014	.015	.016	.017	.018	.018	.018	.019	.019	.019	.019	.0 9	.019	.019	.019	.019	.019	.019
.210 *	.010	.013	.015	.016	.017	.018	.018	.019	.019	.019	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
.215 *	.011	.013	.015	.016	.017	.018	.019	.019	.020	.020	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021
.220 *	.011	.014	.016	.017	.018	.019	.020	.020	.021	.021	.021	.022	.022	.022	.022	.022	.022	.022	.022	.022
.225 *	.011	.014	.016	.018	.019	.020	.020	.021	.021	.022	.022	.022	.023	.023	.023	.023	.023	.023	.023	.023
.230 *	.012	.015	.017	.018	.019	.020	.021	.022	.022	.023	.023	.023	.023	.024	.024	.024	.024	.024	.024	.024
.235 *	.012	.015	.017	.019	.020	.021	.022	.023	.023	.024	.024	.024	.024	.024	.025	.025	.025	.025	.025	.025
.240 *	.012	.016	.018	.019	.021	.022	.023	.023	.024	.024	.025	.025	.025	.025	.026	.026	.026	.026	.026	.026
.245 *	.013	.016	.018	.020	.021	.022	.023	.024	.025	.025	.026	.026	.026	.026	.026	.027	.027	.027	.027	.027
.250 *	.013	.017	.019	.021	.022	.023	.024	.025	.026	.026	.026	.027	.027	.027	.027	.028	.028	.028	.028	.028

Tabla 3. Continuación. Aforador de 10 x 90 cm.

h_a	$(h_a - h_b)$, metros																			
metros	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.255	.014	.017	.020	.021	.023	.024	.025	.026	.026	.027	.027	.028	.028	.028	.028	.029	.029	.029	.029	.029
.260	.014	.018	.020	.022	.024	.025	.026	.027	.027	.028	.028	.029	.029	.029	.029	.030	.030	.030	.030	.030
.265	.014	.018	.021	.023	.024	.025	.026	.027	.028	.029	.029	.030	.030	.030	.030	.031	.031	.031	.031	.031
.270	.015	.019	.021	.023	.025	.026	.027	.028	.029	.030	.030	.031	.031	.031	.031	.032	.032	.032	.032	.032
.275	.015	.019	.022	.024	.026	.027	.028	.029	.030	.031	.031	.032	.032	.032	.032	.033	.033	.033	.033	.033
.280	.016	.020	.023	.025	.026	.028	.029	.030	.031	.031	.032	.033	.033	.033	.034	.034	.034	.034	.034	.034
.285	.016	.020	.023	.025	.027	.029	.030	.031	.032	.032	.033	.033	.034	.034	.035	.035	.035	.035	.035	.035
.290	.016	.021	.024	.026	.028	.029	.031	.032	.033	.033	.034	.034	.035	.035	.036	.036	.036	.036	.036	.036
.295	.017	.021	.024	.027	.029	.030	.031	.032	.033	.034	.035	.035	.036	.036	.037	.037	.037	.037	.037	.037
.300	.017	.022	.025	.027	.029	.031	.032	.033	.034	.035	.036	.036	.037	.037	.038	.038	.038	.038	.039	.039
.305	.018	.022	.026	.028	.030	.032	.033	.034	.035	.036	.037	.037	.038	.038	.039	.039	.039	.040	.040	.040
.310	.018	.023	.026	.029	.031	.033	.034	.035	.036	.037	.038	.038	.039	.040	.040	.040	.041	.041	.041	.041
.315	.019	.024	.027	.030	.032	.033	.035	.036	.037	.038	.039	.040	.040	.041	.041	.041	.042	.042	.042	.042
.320	.019	.024	.028	.030	.032	.034	.036	.037	.038	.039	.040	.041	.041	.042	.042	.043	.043	.043	.043	.043
.325	.020	.025	.028	.031	.033	.035	.037	.038	.039	.040	.041	.042	.042	.043	.043	.044	.044	.044	.044	.045
.330	.020	.025	.029	.032	.034	.036	.037	.039	.040	.041	.042	.043	.043	.044	.044	.045	.045	.045	.046	.046
.335	.020	.026	.030	.032	.035	.037	.038	.040	.041	.042	.043	.044	.044	.045	.046	.046	.046	.047	.047	.047
.340	.021	.026	.030	.033	.036	.038	.039	.041	.042	.043	.044	.045	.046	.046	.047	.047	.048	.048	.048	.048
.345	.021	.027	.031	.034	.036	.038	.040	.042	.043	.044	.045	.046	.047	.047	.048	.048	.049	.049	.049	.050
.350	.022	.028	.032	.035	.037	.039	.041	.043	.044	.045	.046	.047	.048	.048	.049	.050	.050	.050	.051	.051
.355	.022	.028	.032	.035	.038	.040	.042	.044	.045	.046	.047	.048	.049	.050	.050	.051	.051	.052	.052	.052
.360	.023	.029	.033	.036	.039	.041	.043	.045	.046	.047	.048	.049	.050	.051	.051	.052	.052	.053	.053	.053
.365	.023	.029	.034	.037	.040	.042	.044	.045	.047	.048	.049	.050	.051	.052	.053	.053	.054	.054	.054	.055
.370	.024	.030	.034	.038	.041	.043	.045	.046	.048	.049	.050	.051	.052	.053	.054	.054	.055	.055	.056	.056
.375	.024	.031	.035	.039	.041	.044	.046	.047	.049	.050	.051	.053	.053	.054	.055	.056	.056	.057	.057	.057
.380	.025	.031	.036	.039	.042	.045	.047	.048	.050	.051	.053	.054	.055	.055	.056	.057	.057	.058	.058	.059
.385	.025	.032	.037	.040	.043	.046	.048	.049	.051	.052	.054	.055	.056	.057	.057	.058	.059	.059	.060	.060
.390	.026	.033	.037	.041	.044	.046	.049	.050	.052	.054	.055	.056	.057	.058	.059	.059	.060	.060	.061	.061
.395	.026	.033	.038	.042	.045	.047	.050	.051	.053	.055	.056	.057	.058	.059	.060	.061	.061	.062	.062	.063
.400	.027	.034	.039	.043	.046	.048	.051	.052	.054	.056	.057	.058	.059	.060	.061	.062	.063	.063	.064	.064
.405	.027	.034	.039	.043	.047	.049	.052	.054	.055	.057	.058	.059	.061	.062	.062	.063	.064	.064	.065	.065
.410	.028	.035	.040	.044	.047	.050	.053	.055	.056	.058	.059	.061	.062	.063	.064	.064	.065	.066	.066	.067
.415	.028	.036	.041	.045	.048	.051	.054	.056	.057	.059	.061	.062	.063	.064	.065	.066	.067	.067	.068	.068
.420	.029	.036	.042	.046	.049	.052	.055	.057	.059	.060	.062	.063	.064	.065	.066	.067	.068	.069	.069	.070
.425	.029	.037	.042	.047	.050	.053	.056	.058	.060	.061	.063	.064	.065	.067	.068	.068	.069	.070	.071	.071
.430	.030	.038	.043	.047	.051	.054	.057	.059	.061	.062	.064	.065	.067	.068	.069	.070	.071	.071	.072	.072
.435	.030	.038	.044	.048	.052	.055	.058	.060	.062	.064	.065	.067	.068	.069	.070	.071	.072	.073	.073	.074
.440	.031	.039	.045	.049	.053	.056	.059	.061	.063	.065	.066	.068	.069	.070	.071	.072	.073	.074	.075	.075
.445	.031	.040	.045	.050	.054	.057	.060	.062	.064	.066	.068	.069	.070	.072	.073	.074	.075	.075	.076	.077
.450	.032	.040	.046	.051	.055	.058	.061	.063	.065	.067	.069	.070	.072	.073	.074	.075	.076	.077	.078	.078

Tabla 3. Continuación. Aforador de 10 x 90 cm.

h_a metros	$(h_a - h_b)$, metros										
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150	.155
.255 *	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029
.260 *	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030
.265 *	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031
.270 *	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032
.275 *	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033
.280 *	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034
.285 *	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035
.290 *	.037	.037	.037	.037	.037	.037	.037	.037	.037	.037	.037
.295 *	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038
.300 *	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039
.305 *	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040
.310 *	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041
.315 *	.042	.042	.043	.043	.043	.043	.043	.043	.043	.043	.043
.320 *	.043	.043	.044	.044	.044	.044	.044	.044	.044	.044	.044
.325 *	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045
.330 *	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046
.335 *	.047	.047	.047	.048	.048	.048	.048	.048	.048	.048	.048
.340 *	.048	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049
.345 *	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050
.350 *	.051	.051	.051	.051	.052	.052	.052	.052	.052	.052	.052
.355 *	.052	.052	.053	.053	.053	.053	.053	.053	.053	.053	.053
.360 *	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054
.365 *	.055	.055	.055	.055	.055	.056	.056	.056	.056	.056	.056
.370 *	.056	.056	.057	.057	.057	.057	.057	.057	.057	.057	.057
.375 *	.058	.058	.058	.058	.058	.058	.059	.059	.059	.059	.059
.380 *	.059	.059	.059	.059	.060	.060	.060	.060	.060	.060	.060
.385 *	.060	.061	.061	.061	.061	.061	.062	.062	.062	.062	.062
.390 *	.062	.062	.062	.062	.062	.062	.063	.063	.063	.063	.063
.395 *	.063	.063	.064	.064	.064	.064	.064	.065	.065	.065	.065
.400 *	.064	.065	.065	.065	.065	.065	.065	.066	.066	.066	.066
.405 *	.066	.066	.066	.067	.067	.067	.067	.067	.068	.068	.068
.410 *	.067	.068	.068	.068	.068	.068	.068	.069	.069	.069	.069
.415 *	.069	.069	.069	.070	.070	.070	.070	.070	.070	.071	.071
.420 *	.070	.070	.071	.071	.071	.071	.072	.072	.072	.072	.072
.425 *	.072	.072	.072	.073	.073	.073	.073	.073	.073	.074	.074
.430 *	.073	.073	.074	.074	.074	.075	.075	.075	.075	.075	.076
.435 *	.074	.075	.075	.076	.076	.076	.076	.076	.076	.076	.077
.440 *	.076	.076	.077	.077	.077	.078	.078	.078	.078	.078	.079
.445 *	.077	.078	.078	.079	.079	.079	.079	.080	.080	.080	.080
.450 *	.079	.079	.080	.080	.081	.081	.081	.081	.081	.081	.081

Tabla 4. Descarga Sumergida en m^3/seg., para el aforador "sin cuello" de 20 x 90 cm.

h_a	$(h_a - h_b)$, metros																			
metros	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.015	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.020	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.025	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.030	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.035	.001	.001	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.040	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.045	.002	.002	.002	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.050	.002	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.055	.003	.003	.003	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.060	.003	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.065	.003	.004	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.070	.004	.005	.005	.005	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.075	.004	.005	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.080	.005	.006	.006	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.085	.005	.006	.007	.007	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
.090	.006	.007	.008	.008	.008	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.095	.006	.008	.009	.009	.009	.009	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010
.100	.007	.008	.009	.010	.010	.010	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011
.105	.007	.009	.010	.011	.011	.011	.011	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.110	.008	.010	.011	.011	.012	.012	.012	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013
.115	.008	.010	.012	.012	.013	.013	.013	.013	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.120	.009	.011	.012	.013	.014	.014	.014	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015
.125	.009	.012	.013	.014	.015	.015	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
.130	.010	.013	.014	.015	.016	.016	.017	.017	.017	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018
.135	.011	.013	.015	.016	.017	.017	.018	.018	.018	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019
.140	.011	.014	.016	.017	.018	.018	.019	.019	.019	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
.145	.012	.015	.017	.018	.019	.020	.020	.020	.021	.021	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022
.150	.012	.016	.018	.019	.020	.021	.021	.022	.022	.022	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023
.155	.013	.016	.018	.020	.021	.022	.022	.023	.023	.023	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024
.160	.014	.017	.019	.021	.022	.023	.024	.024	.024	.025	.025	.026	.026	.026	.026	.026	.026	.026	.026	.026
.165	.014	.018	.020	.022	.023	.024	.025	.025	.026	.026	.026	.027	.027	.027	.027	.027	.027	.027	.027	.027
.170	.015	.019	.021	.023	.024	.025	.026	.027	.027	.027	.028	.029	.029	.029	.029	.029	.029	.029	.029	.029
.175	.016	.020	.022	.024	.026	.027	.027	.028	.029	.029	.029	.029	.031	.031	.031	.031	.031	.031	.031	.031
.180	.016	.021	.023	.025	.027	.028	.029	.029	.030	.030	.031	.031	.032	.032	.032	.032	.032	.032	.032	.032
.185	.017	.021	.024	.026	.028	.029	.030	.031	.031	.032	.032	.032	.034	.034	.034	.034	.034	.034	.034	.034
.190	.018	.022	.025	.028	.029	.030	.031	.032	.033	.033	.034	.034	.034	.036	.036	.036	.036	.036	.036	.036
.195	.018	.023	.026	.029	.030	.032	.033	.034	.034	.035	.035	.035	.035	.037	.037	.037	.037	.037	.037	.037
.200	.019	.024	.027	.030	.032	.033	.034	.035	.036	.036	.037	.037	.037	.037	.039	.039	.039	.039	.039	.039
.205	.020	.025	.028	.031	.033	.034	.036	.037	.037	.038	.038	.039	.039	.039	.041	.041	.041	.041	.041	.041
.210	.021	.026	.030	.032	.034	.036	.037	.038	.039	.040	.040	.040	.041	.041	.043	.043	.043	.043	.043	.043
.215	.021	.027	.031	.033	.035	.037	.039	.040	.040	.041	.042	.042	.042	.042	.042	.045	.045	.045	.045	.045
.220	.022	.028	.032	.035	.037	.039	.040	.041	.042	.043	.043	.044	.044	.044	.044	.047	.047	.047	.047	.047
.225	.023	.029	.033	.036	.038	.040	.041	.043	.044	.044	.045	.046	.046	.046	.046	.049	.049	.049	.049	.049
.230	.024	.030	.034	.037	.039	.041	.043	.044	.045	.046	.047	.047	.048	.048	.048	.048	.051	.051	.051	.051
.235	.024	.031	.035	.038	.041	.043	.044	.046	.047	.048	.049	.049	.050	.050	.050	.050	.053	.053	.053	.053
.240	.025	.032	.036	.040	.042	.044	.046	.047	.049	.050	.050	.051	.051	.052	.052	.052	.055	.055	.055	.055
.245	.026	.033	.037	.041	.044	.046	.048	.049	.050	.051	.052	.053	.053	.054	.054	.054	.054	.057	.057	.057
.250	.027	.034	.039	.042	.045	.047	.049	.051	.052	.053	.054	.055	.055	.056	.056	.056	.056	.059	.059	.059

Tabla 4. Continuación. Aforador de 20 x 90.

h_a	$(h_a - h_b)$, metros																			
metros	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.255 *	.028	.035	.040	.043	.046	.049	.051	.052	.054	.055	.056	.056	.057	.057	.058	.058	.058	.061	.061	.061
.260 *	.028	.036	.041	.045	.048	.050	.052	.054	.055	.057	.058	.058	.059	.059	.060	.060	.060	.060	.063	.063
.265 *	.029	.037	.042	.046	.049	.052	.054	.056	.057	.058	.059	.060	.061	.061	.062	.062	.062	.062	.065	.065
.270 *	.030	.038	.043	.047	.051	.053	.056	.057	.059	.060	.061	.062	.063	.063	.064	.064	.064	.065	.068	.068
.275 *	.031	.039	.045	.049	.052	.055	.057	.059	.061	.062	.063	.064	.065	.066	.066	.066	.067	.067	.067	.070
.280 *	.032	.040	.046	.050	.054	.056	.059	.061	.062	.064	.065	.066	.067	.068	.068	.069	.069	.069	.069	.071
.285 *	.033	.041	.047	.052	.055	.058	.060	.063	.064	.066	.067	.068	.069	.070	.070	.071	.071	.071	.071	.075
.290 *	.033	.042	.048	.053	.057	.060	.062	.064	.066	.068	.069	.070	.071	.072	.072	.073	.073	.073	.074	.074
.295 *	.034	.043	.050	.054	.058	.061	.064	.066	.068	.070	.071	.072	.073	.074	.075	.075	.075	.076	.076	.076
.300 *	.035	.045	.051	.056	.060	.063	.066	.068	.070	.071	.073	.074	.075	.076	.077	.077	.078	.078	.078	.078
.305 *	.036	.046	.052	.057	.061	.065	.067	.070	.072	.073	.075	.076	.077	.078	.079	.080	.080	.080	.081	.081
.310 *	.037	.047	.054	.059	.063	.066	.069	.071	.074	.075	.077	.078	.079	.080	.081	.082	.082	.083	.083	.083
.315 *	.038	.048	.055	.060	.064	.068	.071	.073	.075	.077	.079	.080	.082	.083	.083	.084	.085	.085	.085	.086
.320 *	.039	.049	.056	.062	.066	.070	.073	.075	.077	.079	.081	.082	.084	.085	.086	.086	.087	.088	.088	.088
.325 *	.040	.050	.058	.063	.068	.071	.074	.077	.079	.081	.083	.085	.086	.087	.088	.089	.089	.090	.090	.091
.330 *	.041	.051	.059	.065	.069	.073	.076	.079	.081	.083	.085	.087	.088	.089	.090	.091	.092	.092	.093	.093
.335 *	.041	.053	.060	.066	.071	.075	.078	.081	.083	.085	.087	.089	.090	.092	.093	.093	.094	.095	.095	.096
.340 *	.042	.054	.062	.068	.072	.076	.080	.083	.085	.087	.089	.091	.093	.094	.095	.096	.097	.097	.098	.098
.345 *	.043	.055	.063	.069	.074	.078	.082	.085	.087	.090	.092	.093	.095	.096	.097	.098	.099	.100	.100	.101
.350 *	.044	.056	.064	.071	.076	.080	.083	.087	.089	.092	.094	.095	.097	.098	.100	.101	.102	.102	.103	.103
.355 *	.045	.057	.066	.072	.077	.082	.085	.089	.091	.094	.096	.098	.099	.101	.102	.103	.104	.105	.105	.105
.360 *	.046	.059	.067	.074	.079	.083	.087	.091	.093	.096	.098	.100	.102	.103	.104	.106	.107	.107	.108	.109
.365 *	.047	.060	.069	.075	.081	.085	.089	.092	.095	.098	.100	.102	.104	.106	.107	.108	.109	.110	.111	.111
.370 *	.048	.061	.070	.077	.082	.087	.091	.094	.097	.100	.102	.105	.106	.108	.109	.111	.112	.112	.113	.114
.375 *	.049	.062	.071	.078	.084	.089	.093	.096	.100	.102	.105	.107	.109	.110	[illegible]	.113	.114	.115	.116	.117
.380 *	.050	.064	.073	.080	.086	.091	.095	.099	.102	.104	.107	.109	.111	.113	.114	.116	.117	.118	.119	.119
.385 *	.051	.065	.074	.082	.088	.093	.097	.101	.104	.107	.109	.111	.113	.115	.117	.118	.119	.120	.121	.122
.390 *	.052	.066	.076	.083	.089	.094	.099	.103	.106	.109	.111	.114	.116	.118	.119	.121	.122	.123	.124	.125
.395 *	.053	.067	.077	.085	.091	.096	.101	.105	.108	.111	.114	.116	.118	.120	.122	.123	.125	.126	.127	.128
.400 *	.054	.069	.079	.087	.093	.098	.103	.107	.110	.113	.116	.119	.121	.123	.124	.126	.127	.128	.129	.130
.405 *	.055	.070	.080	.088	.095	.100	.105	.109	.112	.116	.118	.121	.123	.125	.127	.128	.130	.131	.132	.133
.410 *	.056	.071	.082	.090	.096	.102	.107	.111	.115	.118	.121	.123	.126	.128	.129	.131	.133	.134	.135	.136
.415 *	.057	.073	.083	.091	.098	.104	.109	.113	.117	.120	.123	.126	.128	.130	.132	.134	.135	.137	.138	.139
.420 *	.058	.074	.085	.093	.100	.106	.111	.115	.119	.122	.125	.128	.131	.133	.135	.136	.138	.139	.141	.142
.425 *	.059	.075	.086	.095	.102	.108	.113	.117	.121	.129	.128	.131	.133	.135	.137	.139	.141	.142	.143	.144
.430 *	.060	.077	.088	.097	.104	.110	.115	.119	.123	.127	.130	.133	.136	.138	.140	.142	.143	.145	.146	.147
.435 *	.061	.078	.089	.098	.106	.112	.117	.122	.126	.129	.133	.136	.138	.141	.143	.145	.146	.148	.149	.150
.440 *	.062	.079	.091	.100	.107	.114	.119	.124	.128	.132	.135	.138	.141	.143	.145	.147	.149	.151	.152	.153
.445 *	.063	.081	.092	.102	.109	.116	.121	.126	.130	.134	.137	.141	.143	.146	.148	.150	.152	.153	.155	.156
.450 *	.064	.082	.094	.103	.111	.118	.123	.128	.133	.136	.140	.143	.146	.148	.151	.153	.155	.156	.158	.159

Table 4. Continuación. Aforador de 20 x 90 cm.

h_a	$(h_a - h_b)$, metros										
metros	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150	.155
.255	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061
.260	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063
.265	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066
.270	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068
.275	.070	.070	.070	.070	.070	.070	.070	.070	.070	.070	.070
.280	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073
.285	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075
.290	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078
.295	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080
.300	.082	.082	.082	.082	.082	.082	.082	.082	.082	.082	.082
.305	.085	.085	.085	.085	.085	.085	.085	.085	.085	.085	.085
.310	.088	.088	.088	.088	.088	.088	.088	.088	.088	.088	.088
.315	.090	.090	.090	.090	.090	.090	.090	.090	.090	.090	.090
.320	.093	.093	.093	.093	.093	.093	.093	.093	.093	.093	.093
.325	.096	.096	.096	.096	.096	.096	.096	.096	.096	.096	.096
.330	.098	.098	.098	.098	.098	.098	.098	.098	.098	.098	.098
.335	.101	.101	.101	.101	.101	.101	.101	.101	.101	.101	.101
.340	.104	.104	.104	.104	.104	.104	.104	.104	.104	.104	.104
.345	.107	.107	.107	.107	.107	.107	.107	.107	.107	.107	.107
.350	.110	.110	.110	.110	.110	.110	.110	.110	.110	.110	.110
.355	.112	.112	.112	.112	.112	.112	.112	.112	.112	.112	.112
.360	.115	.115	.115	.115	.115	.115	.115	.115	.115	.115	.115
.365	.118	.118	.118	.118	.118	.118	.118	.118	.118	.118	.118
.370	.121	.121	.121	.121	.121	.121	.121	.121	.121	.121	.121
.375	.124	.124	.124	.124	.124	.124	.124	.124	.124	.124	.124
.380	.127	.127	.127	.127	.127	.127	.127	.127	.127	.127	.127
.385	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131	.131
.390	.134	.134	.134	.134	.134	.134	.134	.134	.134	.134	.134
.395	.137	.137	.137	.137	.137	.137	.137	.137	.137	.137	.137
.400	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140	.140
.405	.143	.143	.143	.143	.143	.143	.143	.143	.143	.143	.143
.410	.147	.147	.147	.147	.147	.147	.147	.147	.147	.147	.147
.415	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150
.420	.153	.153	.153	.153	.153	.153	.153	.153	.153	.153	.153
.425	.157	.157	.157	.157	.157	.157	.157	.157	.157	.157	.157
.430	.160	.160	.160	.160	.160	.160	.160	.160	.160	.160	.160
.435	.163	.163	.163	.163	.163	.163	.163	.163	.163	.163	.163
.440	.167	.167	.167	.167	.167	.167	.167	.167	.167	.167	.167
.445	.170	.170	.170	.170	.170	.170	.170	.170	.170	.170	.170
.450	.173	.173	.173	.173	.173	.173	.173	.173	.173	.173	.173

Tabla 5. Descarga Sumergida en m^3/seg., para el aforador "sin cuello" de 30 x 90 centímetros.

h_a	$(h_a - h_b)$, metros																			
metros	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.015 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.020 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.025 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.030 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.035 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.040 *	.002	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.045 *	.003	.003	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.050 *	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.055 *	.004	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.060 *	.005	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.065 *	.005	.006	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.070 *	.006	.007	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
.075 *	.007	.008	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.080 *	.007	.009	.010	.010	.010	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011
.085 *	.008	.010	.011	.011	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.090 *	.009	.011	.012	.012	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013
.095 *	.009	.012	.013	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.100 *	.010	.013	.014	.015	.015	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
.105 *	.011	.014	.015	.016	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017
.110 *	.012	.015	.016	.017	.018	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019
.115 *	.013	.016	.018	.019	.020	.020	.020	.020	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021
.120 *	.013	.017	.019	.020	.021	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022
.125 *	.014	.019	.020	.021	.022	.023	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024
.130 *	.015	.019	.021	.023	.024	.025	.025	.025	.026	.025	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026
.135 *	.016	.020	.023	.024	.025	.026	.027	.027	.027	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028
.140 *	.017	.021	.024	.026	.027	.028	.029	.029	.029	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030
.145 *	.018	.022	.025	.027	.029	.030	.030	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031
.150 *	.019	.024	.027	.029	.030	.031	.032	.033	.033	.033	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034
.155 *	.020	.025	.028	.030	.032	.033	.034	.035	.035	.035	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036
.160 *	.021	.026	.029	.032	.034	.035	.036	.037	.037	.037	.037	.038	.038	.038	.038	.038	.038	.038	.038	.038
.165 *	.022	.027	.031	.033	.035	.037	.038	.039	.039	.039	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040
.170 *	.023	.029	.032	.035	.037	.039	.040	.041	.041	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042
.175 *	.024	.030	.034	.037	.039	.040	.042	.043	.043	.044	.044	.044	.045	.045	.045	.045	.045	.045	.045	.045
.180 *	.025	.031	.035	.038	.041	.042	.044	.045	.045	.046	.046	.046	.047	.047	.047	.047	.047	.047	.047	.047
.185 *	.026	.033	.037	.040	.042	.044	.046	.047	.048	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049
.190 *	.027	.034	.039	.042	.044	.046	.048	.049	.050	.050	.051	.051	.051	.052	.052	.052	.052	.052	.052	.052
.195 *	.028	.035	.040	.043	.046	.048	.050	.051	.052	.053	.053	.054	.054	.054	.054	.054	.054	.054	.054	.054
.200 *	.029	.037	.042	.045	.048	.050	.052	.053	.054	.055	.056	.056	.056	.057	.057	.057	.057	.057	.057	.057
.205 *	.030	.038	.043	.047	.050	.052	.054	.056	.057	.058	.058	.059	.059	.059	.060	.060	.060	.060	.060	.060
.210 *	.031	.039	.045	.049	.052	.054	.056	.058	.059	.060	.061	.061	.062	.062	.062	.062	.062	.062	.062	.062
.215 *	.032	.041	.046	.051	.054	.056	.058	.060	.061	.062	.063	.064	.064	.064	.064	.065	.065	.065	.065	.065
.220 *	.034	.042	.048	.052	.056	.058	.061	.062	.064	.065	.066	.066	.067	.067	.067	.068	.068	.068	.068	.068
.225 *	.035	.044	.050	.054	.058	.061	.063	.065	.066	.067	.068	.069	.070	.070	.070	.071	.071	.071	.071	.071
.230 *	.036	.045	.052	.056	.060	.063	.065	.067	.069	.070	.071	.072	.072	.073	.073	.073	.074	.074	.074	.074
.235 *	.037	.047	.053	.058	.062	.065	.067	.069	.071	.072	.074	.074	.075	.075	.076	.076	.077	.077	.077	.077
.240 *	.038	.048	.055	.060	.064	.067	.070	.072	.074	.075	.076	.077	.078	.078	.079	.079	.080	.080	.080	.080
.245 *	.039	.050	.057	.062	.066	.069	.072	.074	.076	.078	.079	.080	.081	.081	.082	.082	.082	.083	.083	.083
.250 *	.041	.051	.059	.064	.068	.072	.074	.077	.079	.080	.082	.083	.084	.084	.085	.085	.085	.086	.086	.086

Table 5. Continuación. Aforador de 30 x 90 cm.

h_a	$(h_a - h_b)$, metros																			
metros	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.250	.042	.053	.060	.066	.070	.074	.077	.079	.081	.083	.084	.086	.086	.087	.088	.088	.088	.089	.089	.089
.255	.043	.054	.062	.068	.072	.076	.079	.082	.084	.085	.087	.088	.089	.090	.091	.091	.091	.091	.092	.092
.260	.044	.056	.064	.070	.075	.078	.082	.084	.087	.088	.090	.091	.092	.093	.094	.094	.094	.095	.095	.096
.265	.045	.058	.066	.072	.077	.081	.084	.087	.089	.091	.093	.094	.095	.096	.097	.097	.098	.098	.099	.099
.270	.047	.059	.068	.074	.079	.083	.087	.090	.092	.094	.096	.097	.098	.099	.100	.101	.101	.101	.101	.102
.275	.048	.061	.070	.076	.081	.086	.089	.092	.095	.097	.099	.100	.101	.102	.103	.104	.104	.105	.105	.105
.280	.049	.063	.071	.078	.084	.088	.092	.095	.097	.100	.102	.103	.105	.106	.106	.107	.108	.108	.108	.109
.285	.051	.064	.073	.080	.086	.090	.094	.097	.100	.103	.105	.106	.108	.109	.110	.110	.111	.111	.112	.112
.290	.052	.066	.075	.082	.088	.093	.097	.100	.103	.105	.108	.109	.111	.112	.113	.114	.114	.115	.115	.116
.295	.053	.069	.077	.085	.090	.095	.099	.103	.106	.109	.111	.112	.114	.115	.116	.117	.118	.118	.119	.119
.300	.055	.070	.079	.087	.093	.098	.102	.106	.109	.111	.114	.115	.117	.119	.120	.121	.121	.122	.122	.123
.305	.056	.072	.081	.089	.095	.100	.105	.108	.112	.114	.117	.119	.120	.122	.123	.124	.125	.125	.126	.126
.310	.057	.073	.083	.091	.098	.103	.107	.111	.114	.117	.120	.122	.124	.125	.126	.127	.128	.129	.130	.130
.315	.058	.075	.085	.093	.100	.105	.110	.114	.117	.120	.123	.125	.127	.128	.130	.131	.132	.133	.133	.134
.320	.060	.076	.087	.096	.102	.108	.113	.117	.120	.123	.126	.128	.130	.132	.133	.135	.135	.136	.137	.137
.325	.061	.078	.089	.098	.105	.111	.115	.120	.123	.126	.129	.131	.134	.135	.137	.138	.139	.140	.141	.141
.330	.063	.080	.091	.100	.107	.113	.118	.122	.126	.129	.132	.135	.137	.139	.140	.142	.143	.144	.144	.145
.335	.064	.082	.093	.102	.110	.116	.121	.125	.129	.133	.136	.139	.140	.142	.144	.145	.146	.147	.148	.149
.340	.066	.083	.095	.105	.112	.119	.124	.128	.132	.136	.139	.141	.144	.146	.147	.149	.150	.151	.152	.153
.345	.067	.085	.098	.107	.115	.121	.127	.131	.135	.139	.142	.145	.147	.149	.151	.153	.154	.155	.156	.157
.350	.069	.087	.100	.109	.117	.124	.129	.134	.138	.142	.145	.148	.151	.153	.155	.156	.158	.159	.160	.161
.355	.070	.089	.102	.112	.120	.126	.132	.137	.142	.145	.149	.152	.154	.156	.158	.160	.161	.163	.164	.165
.360	.071	.091	.104	.114	.122	.129	.135	.140	.145	.149	.152	.155	.158	.160	.162	.164	.165	.167	.168	.169
.365	.073	.093	.106	.116	.125	.132	.138	.143	.148	.151	.155	.158	.161	.164	.166	.168	.169	.170	.172	.173
.370	.074	.095	.108	.119	.127	.135	.141	.146	.151	.155	.159	.162	.165	.167	.169	.171	.173	.174	.176	.177
.375	.076	.096	.110	.121	.130	.138	.144	.149	.154	.158	.162	.165	.168	.171	.173	.175	.177	.178	.180	.181
.380	.077	.098	.113	.124	.133	.140	.147	.152	.157	.162	.166	.169	.172	.175	.177	.179	.181	.182	.184	.185
.385	.079	.100	.115	.126	.135	.143	.150	.156	.161	.165	.169	.172	.176	.178	.181	.183	.185	.186	.188	.189
.390	.080	.102	.117	.129	.138	.146	.153	.159	.164	.168	.172	.176	.179	.182	.185	.187	.189	.191	.192	.193
.395	.082	.104	.119	.131	.141	.149	.156	.162	.167	.172	.176	.180	.183	.186	.188	.191	.193	.195	.196	.197
.400	.083	.105	.122	.134	.143	.152	.159	.165	.170	.175	.179	.183	.187	.190	.192	.195	.197	.199	.200	.202
.405	.085	.108	.124	.136	.146	.155	.162	.168	.174	.179	.183	.187	.190	.193	.196	.199	.201	.203	.205	.206
.410	.087	.110	.126	.139	.149	.157	.165	.171	.177	.182	.187	.191	.194	.197	.200	.203	.205	.207	.209	.210
.415	.088	.112	.128	.141	.152	.160	.168	.175	.180	.186	.190	.194	.198	.201	.204	.207	.209	.211	.213	.215
.420	.090	.114	.131	.144	.154	.163	.171	.178	.184	.189	.194	.198	.202	.205	.208	.211	.213	.215	.217	.219
.425	.091	.116	.133	.146	.157	.166	.174	.181	.187	.193	.197	.202	.206	.209	.212	.215	.217	.220	.222	.223
.430	.093	.118	.135	.149	.160	.169	.177	.184	.191	.196	.201	.205	.209	.213	.216	.219	.222	.224	.226	.228
.435	.094	.120	.138	.152	.163	.172	.180	.188	.194	.200	.205	.209	.213	.217	.220	.223	.226	.228	.230	.232
.440	.096	.122	.140	.154	.166	.175	.184	.191	.197	.203	.208	.213	.217	.221	.224	.227	.230	.233	.235	.237
.445	.098	.124	.143	.157	.168	.178	.187	.194	.201	.207	.212	.217	.221	.225	.228	.232	.234	.237	.239	.241
.450																				

Tabla 5. Continuación. Aforador de 30 x 90 cm.

h_a	$(h_a - h_b)$, metros										
metros	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150	.155
.245 +	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089
.245 +	.092	.092	.092	.092	.092	.092	.092	.092	.092	.092	.092
.245 +	.096	.096	.096	.096	.096	.096	.096	.096	.096	.096	.096
.245 +	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099
.245 +	.102	.102	.102	.102	.102	.102	.102	.102	.102	.102	.102
.245 +	.105	.105	.106	.105	.106	.106	.106	.106	.106	.105	.105
.245 +	.109	.109	.109	.109	.109	.109	.109	.109	.109	.109	.109
.245 +	.113	.113	.113	.113	.113	.113	.113	.113	.113	.113	.113
.245 +	.116	.116	.116	.116	.116	.116	.116	.116	.116	.116	.116
.245 +	.120	.120	.120	.120	.120	.120	.120	.120	.120	.120	.120
.245 +	.123	.124	.124	.124	.124	.124	.124	.124	.124	.124	.124
.245 +	.127	.127	.127	.127	.127	.127	.127	.127	.127	.127	.127
.245 +	.130	.130	.131	.131	.131	.131	.131	.131	.131	.131	.131
.245 +	.134	.134	.135	.135	.135	.135	.135	.135	.135	.135	.135
.245 +	.138	.138	.139	.139	.139	.139	.139	.139	.139	.139	.139
.245 +	.141	.142	.142	.143	.143	.143	.143	.143	.143	.143	.143
.245 +	.145	.146	.146	.147	.147	.147	.147	.147	.147	.147	.147
.245 +	.149	.150	.150	.151	.151	.151	.151	.151	.151	.151	.151
.245 +	.153	.154	.154	.154	.155	.155	.155	.155	.155	.155	.155
.245 +	.157	.158	.158	.158	.159	.159	.159	.159	.159	.159	.159
.245 +	.161	.162	.162	.162	.164	.164	.164	.164	.164	.164	.164
.245 +	.165	.166	.166	.166	.166	.168	.168	.168	.168	.168	.168
.245 +	.169	.170	.170	.170	.171	.172	.172	.172	.172	.172	.172
.245 +	.173	.174	.174	.175	.175	.177	.177	.177	.177	.177	.177
.245 +	.177	.178	.178	.178	.179	.179	.181	.181	.181	.181	.181
.245 +	.181	.182	.183	.183	.184	.184	.185	.185	.185	.185	.185
.245 +	.185	.187	.187	.188	.188	.188	.190	.190	.190	.190	.190
.245 +	.190	.191	.192	.192	.192	.193	.193	.195	.195	.195	.195
.245 +	.194	.195	.196	.196	.197	.197	.197	.199	.199	.199	.199
.245 +	.199	.200	.200	.201	.201	.202	.202	.204	.204	.204	.204
.245 +	.203	.204	.205	.205	.206	.205	.206	.206	.209	.209	.209
.245 +	.207	.208	.209	.210	.210	.211	.211	.211	.213	.213	.213
.245 +	.212	.213	.214	.214	.215	.216	.216	.216	.216	.218	.218
.245 +	.216	.217	.218	.219	.220	.220	.221	.221	.221	.223	.223
.245 +	.220	.222	.223	.224	.224	.225	.225	.226	.226	.228	.228
.245 +	.225	.225	.227	.228	.229	.230	.230	.230	.231	.231	.233
.245	.229	.231	.232	.233	.234	.234	.235	.235	.235	.235	.238
.245 +	.233	.235	.237	.238	.239	.239	.240	.240	.240	.240	.243
.245 +	.238	.240	.241	.242	.243	.244	.245	.245	.245	.246	.246
.245 +	.243	.245	.246	.247	.248	.249	.250	.250	.250	.251	.251

Tabla 6. Descarga Sumergida en m^3/seg., para el aforador "sin cuello" de 20 x 180 centímetros.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.015 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.020 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.025 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.030 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.035 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.040 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.045 *	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.050 *	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.055 *	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.060 *	.004	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.065 *	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.070 *	.005	.005	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.075 *	.006	.006	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.080 *	.006	.007	.008	.008	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.085 *	.007	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
.090 *	.007	.008	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.095 *	.008	.009	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010
.100 *	.009	.010	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011
.105 *	.009	.011	.011	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.110 *	.010	.011	.012	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013
.115 *	.010	.012	.013	.014	.014	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013
.120 *	.011	.013	.014	.014	.015	.015	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.125 *	.012	.014	.015	.015	.016	.016	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015
.130 *	.012	.015	.016	.016	.017	.017	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
.135 *	.013	.015	.017	.017	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018
.140 *	.014	.016	.017	.018	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019	.019
.145 *	.015	.017	.018	.019	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
.150 *	.015	.018	.019	.020	.021	.021	.022	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021
.155 *	.016	.019	.020	.021	.022	.022	.023	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022
.160 *	.017	.020	.021	.022	.023	.024	.024	.024	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023
.165 *	.018	.020	.022	.023	.024	.025	.025	.025	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024
.170 *	.018	.021	.023	.024	.025	.026	.026	.027	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026
.175 *	.019	.022	.024	.026	.026	.027	.028	.028	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027
.180 *	.020	.023	.025	.027	.028	.028	.029	.029	.029	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028
.185 *	.021	.024	.026	.028	.029	.029	.030	.030	.031	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030
.190 *	.021	.025	.027	.029	.030	.031	.031	.032	.032	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031
.195 *	.022	.026	.028	.030	.031	.032	.033	.033	.033	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032
.200 *	.023	.027	.029	.031	.032	.033	.034	.034	.035	.035	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034
.205 *	.024	.028	.030	.032	.033	.034	.035	.036	.036	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035
.210 *	.025	.029	.032	.033	.035	.036	.036	.037	.037	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036
.215 *	.025	.030	.033	.035	.036	.037	.038	.038	.039	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038
.220 *	.026	.031	.034	.036	.037	.038	.039	.040	.040	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039
.225 *	.027	.032	.035	.037	.038	.040	.040	.041	.042	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041
.230 *	.028	.033	.036	.038	.040	.041	.042	.043	.043	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042
.235 *	.029	.034	.037	.039	.041	.042	.043	.044	.045	.044	.044	.044	.044	.044	.044	.044	.044	.044	.044	.044
.240 *	.030	.035	.038	.041	.042	.044	.045	.045	.046	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045
.245 *	.031	.036	.039	.042	.044	.045	.046	.047	.048	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047
.250 *	.031	.037	.041	.043	.045	.046	.047	.048	.049	.050	.050	.050	.049	.049	.049	.049	.049	.049	.049	.049

Tabla 6. Continuación. Aforador de 20 x 180 cm.

h_a	$(h_a - h_b)$, metros																			
metros	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.255	.032	.038	.042	.044	.046	.048	.049	.050	.051	.051	.052	.052	.052	.050	.050	.050	.050	.050	.050	.050
.260	.033	.039	.043	.046	.048	.049	.050	.051	.052	.053	.053	.053	.054	.052	.052	.052	.052	.052	.052	.052
.265	.034	.040	.044	.047	.049	.051	.052	.053	.054	.054	.055	.055	.055	.053	.053	.053	.053	.053	.053	.053
.270	.035	.041	.045	.048	.050	.052	.053	.054	.055	.056	.056	.057	.057	.055	.055	.055	.055	.055	.055	.055
.275	.036	.042	.047	.049	.052	.053	.055	.056	.057	.057	.058	.058	.059	.059	.057	.057	.057	.057	.057	.057
.280	.037	.044	.048	.051	.053	.055	.056	.057	.058	.059	.060	.060	.060	.061	.059	.059	.059	.059	.059	.059
.285	.039	.045	.049	.052	.054	.056	.058	.059	.060	.061	.061	.062	.062	.062	.060	.060	.060	.060	.060	.060
.290	.039	.046	.050	.053	.056	.058	.059	.061	.062	.062	.063	.063	.064	.064	.062	.062	.062	.062	.062	.062
.295	.040	.047	.051	.055	.057	.059	.061	.062	.063	.064	.065	.065	.066	.066	.064	.064	.064	.064	.064	.064
.300	.041	.048	.053	.056	.059	.061	.062	.064	.065	.066	.066	.067	.067	.068	.068	.066	.066	.066	.066	.066
.305	.042	.049	.054	.057	.060	.062	.064	.065	.066	.067	.068	.069	.069	.070	.070	.067	.067	.067	.067	.067
.310	.043	.050	.055	.059	.061	.064	.065	.067	.068	.069	.070	.070	.071	.071	.072	.069	.069	.069	.069	.069
.315	.044	.051	.056	.060	.063	.065	.067	.068	.070	.071	.072	.072	.073	.073	.073	.074	.071	.071	.071	.071
.320	.045	.053	.058	.062	.064	.067	.069	.070	.071	.072	.073	.074	.075	.075	.075	.076	.073	.073	.073	.073
.325	.046	.054	.059	.063	.066	.068	.070	.072	.073	.074	.075	.076	.076	.077	.077	.077	.075	.075	.075	.075
.330	.047	.055	.060	.064	.067	.070	.072	.073	.075	.076	.077	.078	.078	.079	.079	.079	.077	.077	.077	.077
.335	.048	.056	.062	.066	.069	.071	.073	.075	.076	.078	.079	.079	.080	.081	.081	.081	.082	.079	.079	.079
.340	.049	.057	.063	.067	.070	.073	.075	.077	.078	.079	.080	.081	.082	.083	.083	.083	.083	.081	.081	.081
.345	.050	.059	.064	.069	.072	.074	.077	.078	.080	.082	.082	.083	.084	.084	.085	.085	.085	.083	.083	.083
.350	.051	.060	.066	.070	.073	.076	.078	.080	.082	.083	.084	.085	.086	.086	.087	.087	.087	.085	.085	.085
.355	.052	.061	.067	.071	.075	.078	.080	.082	.083	.085	.086	.087	.088	.088	.089	.089	.089	.090	.087	.087
.360	.053	.062	.068	.073	.076	.079	.082	.084	.085	.087	.088	.089	.090	.090	.091	.091	.092	.092	.089	.089
.365	.054	.063	.070	.074	.078	.081	.083	.085	.087	.088	.090	.091	.091	.092	.093	.093	.094	.094	.091	.091
.370	.055	.065	.071	.076	.079	.082	.085	.087	.089	.090	.091	.092	.093	.094	.095	.095	.096	.096	.093	.093
.375	.056	.066	.072	.077	.081	.084	.087	.089	.090	.092	.093	.094	.095	.096	.097	.097	.098	.098	.095	.095
.380	.057	.067	.074	.079	.083	.086	.088	.090	.092	.094	.095	.096	.097	.098	.099	.099	.100	.100	.097	.097
.385	.058	.068	.075	.080	.084	.087	.090	.092	.094	.096	.097	.098	.099	.100	.101	.101	.102	.102	.099	.099
.390	.059	.070	.077	.082	.086	.089	.092	.094	.096	.098	.099	.100	.101	.102	.103	.103	.104	.104	.101	.101
.395	.060	.071	.078	.083	.087	.091	.093	.096	.098	.099	.101	.102	.103	.104	.105	.106	.106	.106	.107	.107
.400	.061	.072	.079	.085	.089	.092	.095	.098	.100	.101	.103	.104	.105	.106	.107	.108	.108	.109	.109	.109
.405	.062	.073	.081	.086	.090	.094	.097	.099	.101	.103	.105	.106	.107	.108	.109	.110	.110	.111	.111	.111
.410	.063	.075	.082	.088	.092	.096	.099	.101	.103	.105	.107	.108	.109	.110	.111	.112	.112	.113	.113	.114
.415	.064	.076	.084	.089	.094	.097	.100	.103	.105	.107	.109	.110	.111	.112	.113	.114	.115	.115	.116	.116
.420	.065	.077	.085	.091	.095	.099	.102	.105	.107	.109	.111	.112	.113	.114	.115	.116	.117	.117	.118	.118
.425	.066	.079	.087	.092	.097	.101	.104	.107	.109	.111	.113	.114	.115	.116	.117	.118	.119	.119	.120	.120
.430	.067	.080	.088	.094	.099	.102	.106	.108	.111	.113	.115	.116	.117	.119	.120	.120	.121	.122	.122	.123
.435	.069	.081	.089	.095	.100	.104	.107	.110	.113	.115	.117	.118	.119	.121	.122	.123	.123	.124	.124	.125
.440	.070	.083	.091	.097	.102	.106	.109	.112	.115	.117	.119	.120	.122	.123	.124	.125	.126	.126	.127	.127
.445	.071	.084	.092	.099	.104	.108	.111	.114	.117	.119	.121	.122	.124	.125	.126	.127	.128	.128	.129	.129
.450	.072	.085	.094	.100	.105	.109	.113	.116	.118	.121	.123	.124	.126	.127	.128	.129	.130	.131	.131	.132
.455	.073	.087	.095	.102	.107	.111	.115	.118	.120	.123	.125	.126	.128	.129	.130	.131	.132	.133	.134	.134
.460	.074	.088	.097	.103	.109	.113	.117	.120	.122	.125	.127	.128	.130	.131	.133	.134	.134	.135	.136	.136
.465	.075	.089	.098	.105	.110	.115	.118	.122	.124	.127	.129	.131	.132	.134	.135	.136	.137	.134	.138	.139
.470	.076	.091	.100	.107	.112	.117	.120	.123	.126	.129	.131	.133	.134	.136	.137	.138	.139	.140	.141	.141
.475	.078	.092	.101	.108	.114	.118	.122	.125	.128	.131	.133	.135	.136	.138	.139	.140	.141	.142	.143	.144
.480	.079	.093	.103	.110	.115	.120	.124	.127	.130	.133	.135	.137	.139	.140	.141	.143	.144	.144	.145	.146
.485	.080	.095	.104	.111	.117	.122	.126	.129	.132	.135	.137	.139	.141	.142	.144	.145	.146	.147	.148	.148
.490	.081	.096	.106	.113	.119	.124	.128	.131	.134	.137	.139	.141	.143	.145	.146	.147	.148	.149	.150	.151
.495	.082	.097	.107	.115	.121	.126	.130	.133	.136	.139	.141	.143	.145	.147	.148	.149	.151	.152	.152	.153
.500	.083	.099	.109	.116	.122	.127	.132	.135	.138	.141	.143	.145	.147	.149	.150	.152	.153	.154	.155	.156

Tabla 6. Continuación. Aforador de 20 x 180 cm.

h_a	$(h_a \times h_b)$, metros																			
metros	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.505 *	.084	.100	.110	.118	.124	.129	.133	.137	.140	.143	.145	.148	.150	.151	.153	.154	.155	.156	.157	.158
.510 *	.086	.102	.112	.120	.126	.131	.135	.139	.142	.145	.148	.150	.152	.153	.155	.156	.158	.159	.160	.160
.515 *	.087	.103	.114	.121	.128	.133	.137	.141	.144	.147	.150	.152	.154	.156	.157	.159	.160	.161	.162	.163
.520 *	.088	.104	.115	.123	.129	.135	.139	.143	.146	.149	.152	.154	.156	.158	.160	.161	.162	.163	.164	.165
.525 *	.089	.106	.117	.125	.131	.137	.141	.145	.148	.151	.154	.156	.158	.160	.162	.163	.165	.166	.167	.168
.530 *	.090	.107	.118	.126	.133	.138	.143	.147	.150	.154	.156	.159	.161	.163	.164	.166	.167	.168	.169	.170
.535 *	.092	.109	.120	.128	.135	.140	.145	.149	.153	.156	.158	.161	.163	.165	.167	.168	.170	.171	.172	.173
.540 *	.093	.110	.121	.130	.137	.142	.147	.151	.155	.158	.161	.163	.165	.167	.169	.171	.172	.173	.174	.175
.545 *	.094	.112	.123	.132	.138	.144	.149	.153	.157	.160	.163	.165	.168	.170	.171	.173	.174	.176	.177	.178
.550 *	.095	.113	.125	.133	.140	.146	.151	.155	.159	.162	.165	.168	.170	.172	.174	.175	.177	.178	.179	.180
.555 *	.096	.114	.126	.135	.142	.148	.153	.157	.161	.164	.167	.170	.172	.174	.176	.178	.179	.181	.182	.183
.560 *	.098	.116	.128	.137	.144	.150	.155	.159	.163	.166	.169	.172	.174	.177	.178	.180	.182	.183	.184	.185
.565 *	.099	.117	.129	.138	.146	.152	.157	.161	.165	.169	.172	.174	.177	.179	.181	.183	.184	.186	.187	.188
.570 *	.100	.119	.131	.140	.148	.154	.159	.163	.167	.171	.174	.177	.179	.181	.183	.185	.187	.188	.189	.190
.575 *	.101	.120	.133	.142	.149	.156	.161	.165	.169	.173	.176	.179	.181	.184	.186	.187	.189	.191	.192	.193
.580 *	.103	.122	.134	.144	.151	.158	.163	.168	.172	.175	.178	.181	.184	.186	.188	.190	.192	.193	.194	.196
.585 *	.104	.123	.136	.145	.153	.159	.165	.170	.174	.177	.181	.183	.186	.188	.190	.192	.194	.196	.197	.198
.590 *	.105	.125	.138	.147	.155	.161	.167	.172	.176	.180	.183	.186	.188	.191	.193	.195	.197	.198	.200	.201
.595 *	.106	.126	.139	.149	.157	.163	.169	.174	.178	.182	.185	.188	.191	.193	.195	.197	.199	.201	.202	.203
.600 *	.107	.128	.141	.151	.159	.165	.171	.176	.180	.184	.187	.190	.193	.196	.198	.200	.202	.203	.205	.206

Tabla 6. Continuación. Aforador de 20 x 180 cm.

h_a metros	$(h_a - h_b)$, metros									
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.255 *	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050
.260 *	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052
.265 *	.053	.053	.053	.053	.053	.053	.053	.053	.053	.053
.270 *	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
.275 *	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057
.280 *	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059
.285 *	.060	.060	.060	.060	.060	.060	.060	.060	.060	.060
.290 *	.062	.062	.062	.062	.062	.062	.062	.062	.062	.062
.295 *	.064	.064	.064	.064	.064	.064	.064	.064	.064	.064
.300 *	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066
.305 *	.067	.067	.067	.067	.067	.067	.067	.067	.067	.067
.310 *	.069	.069	.069	.069	.069	.069	.069	.069	.069	.069
.315 *	.071	.071	.071	.071	.071	.071	.071	.071	.071	.071
.320 *	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073
.325 *	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075
.330 *	.077	.077	.077	.077	.077	.077	.077	.077	.077	.077
.335 *	.079	.079	.079	.079	.079	.079	.079	.079	.079	.079
.340 *	.081	.081	.081	.081	.081	.081	.081	.081	.081	.081
.345 *	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083
.350 *	.085	.085	.085	.085	.085	.085	.085	.085	.085	.085
.355 *	.087	.087	.087	.087	.087	.087	.087	.087	.087	.087
.360 *	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089
.365 *	.091	.091	.091	.091	.091	.091	.091	.091	.091	.091
.370 *	.093	.093	.093	.093	.093	.093	.093	.093	.093	.093
.375 *	.095	.095	.095	.095	.095	.095	.095	.095	.095	.095
.380 *	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097
.385 *	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099
.390 *	.101	.101	.101	.101	.101	.101	.101	.101	.101	.101
.395 *	.103	.103	.103	.103	.103	.103	.103	.103	.103	.103
.400 *	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105
.405 *	.108	.108	.108	.108	.108	.108	.108	.108	.108	.108
.410 *	.110	.110	.110	.110	.110	.110	.110	.110	.110	.110
.415 *	.116	.112	.112	.112	.112	.112	.112	.112	.112	.112
.420 *	.118	.114	.114	.114	.114	.114	.114	.114	.114	.114
.425 *	.121	.116	.116	.116	.116	.116	.116	.116	.116	.116
.430 *	.123	.119	.119	.119	.119	.119	.119	.119	.119	.119
.435 *	.125	.125	.121	.121	.121	.121	.121	.121	.121	.121
.440 *	.127	.128	.123	.123	.123	.123	.123	.123	.123	.123
.445 *	.130	.130	.126	.126	.126	.126	.126	.126	.126	.126
.450 *	.132	.132	.128	.128	.128	.128	.128	.128	.128	.128
.455 *	.135	.135	.135	.130	.130	.130	.130	.130	.130	.130
.460 *	.137	.137	.137	.133	.133	.133	.133	.133	.133	.133
.465 *	.139	.140	.140	.135	.135	.135	.135	.135	.135	.135
.470 *	.142	.142	.142	.138	.138	.138	.138	.138	.138	.138
.475 *	.144	.144	.145	.145	.140	.140	.140	.140	.140	.140
.480 *	.146	.147	.147	.147	.142	.142	.142	.142	.142	.142
.485 *	.149	.149	.150	.150	.145	.145	.145	.145	.145	.145
.490 *	.151	.152	.152	.152	.147	.147	.147	.147	.147	.147
.495 *	.154	.154	.155	.155	.155	.150	.150	.150	.150	.150

Tabla 6. Continuación. Aforador de 20 x 180 cm.

h_a metros	$(h_a - h_b)$, metros									
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.505 *	.159	.159	.160	.160	.160	.155	.155	.155	.155	.155
.510 *	.161	.162	.162	.163	.163	.163	.157	.157	.157	.157
.515 *	.164	.164	.165	.165	.165	.166	.160	.160	.160	.160
.520 *	.166	.167	.167	.168	.168	.168	.162	.162	.162	.162
.525 *	.169	.169	.170	.170	.171	.171	.165	.165	.165	.165
.530 *	.171	.172	.172	.173	.173	.174	.174	.168	.168	.168
.535 *	.174	.174	.175	.175	.176	.176	.176	.170	.170	.170
.540 *	.176	.177	.177	.178	.178	.179	.179	.173	.173	.173
.545 *	.179	.179	.180	.181	.181	.181	.182	.176	.176	.176
.550 *	.181	.182	.183	.183	.184	.184	.184	.185	.178	.178
.555 *	.184	.185	.185	.186	.186	.187	.187	.187	.181	.181
.560 *	.186	.187	.188	.189	.189	.190	.190	.190	.184	.184
.565 *	.189	.190	.191	.191	.192	.192	.193	.193	.186	.186
.570 *	.191	.192	.193	.194	.194	.195	.195	.196	.196	.189
.575 *	.194	.195	.196	.197	.197	.198	.198	.198	.199	.192
.580 *	.197	.198	.198	.199	.200	.200	.201	.201	.202	.195
.585 *	.199	.200	.201	.202	.203	.203	.204	.204	.204	.197
.590 *	.202	.203	.204	.205	.205	.206	.206	.207	.207	.207
.595 *	.205	.206	.207	.207	.208	.209	.209	.210	.210	.210
.600 *	.207	.208	.209	.210	.211	.211	.212	.212	.213	.213

Tabla 7. Descarga Sumergida en m^3/seg., para el aforador "sin cuello" de 40 x 180 centímetros

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.015 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.020 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.025 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.030 *	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.035 *	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.040 *	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.045 *	.005	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.050 *	.006	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.055 *	.007	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
.060 *	.008	.009	.010	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.065 *	.009	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011
.070 *	.010	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.075 *	.012	.013	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.080 *	.013	.014	.015	.016	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015
.085 *	.014	.016	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017
.090 *	.015	.017	.018	.019	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018
.095 *	.016	.019	.020	.021	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
.100 *	.017	.020	.021	.022	.023	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022
.105 *	.019	.022	.023	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024
.110 *	.020	.023	.025	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026
.115 *	.021	.025	.027	.028	.028	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027
.120 *	.023	.026	.028	.029	.030	.030	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029
.125 *	.024	.028	.030	.031	.032	.033	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032
.130 *	.026	.030	.032	.033	.034	.035	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034
.135 *	.027	.031	.034	.035	.036	.037	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036
.140 *	.028	.033	.036	.037	.038	.039	.039	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038
.145 *	.030	.035	.037	.039	.040	.041	.042	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040
.150 *	.031	.036	.039	.041	.043	.043	.044	.043	.043	.042	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043
.155 *	.033	.038	.041	.043	.045	.046	.046	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045
.160 *	.034	.040	.043	.045	.047	.048	.049	.049	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047
.165 *	.036	.042	.045	.048	.049	.050	.051	.051	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050
.170 *	.037	.043	.047	.050	.051	.053	.053	.054	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052
.175 *	.039	.045	.049	.052	.054	.055	.056	.056	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
.180 *	.040	.047	.051	.054	.056	.057	.058	.059	.059	.058	.058	.058	.058	.058	.058	.058	.058	.058	.058	.058
.185 *	.042	.049	.053	.056	.058	.060	.061	.062	.062	.060	.060	.060	.060	.060	.060	.060	.060	.060	.060	.060
.190 *	.043	.051	.056	.059	.061	.062	.064	.064	.065	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063
.195 *	.045	.053	.058	.061	.063	.065	.066	.067	.068	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066
.200 *	.047	.055	.060	.063	.066	.067	.069	.070	.070	.071	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068
.205 *	.048	.057	.062	.066	.068	.070	.071	.072	.073	.074	.071	.071	.071	.071	.071	.071	.071	.071	.071	.071
.210 *	.050	.059	.064	.068	.071	.073	.074	.075	.076	.076	.074	.074	.074	.074	.074	.074	.074	.074	.074	.074
.215 *	.052	.061	.066	.070	.073	.075	.077	.078	.079	.079	.077	.077	.077	.077	.077	.077	.077	.077	.077	.077
.220 *	.053	.063	.069	.073	.076	.078	.080	.081	.082	.082	.083	.080	.080	.080	.080	.080	.080	.080	.080	.080
.225 *	.055	.065	.071	.075	.078	.081	.082	.084	.085	.085	.086	.083	.083	.083	.083	.083	.083	.083	.083	.083
.230 *	.057	.067	.073	.078	.081	.083	.085	.087	.088	.088	.089	.086	.086	.086	.086	.086	.086	.086	.086	.086
.235 *	.059	.069	.075	.080	.083	.086	.088	.089	.091	.091	.092	.089	.089	.089	.089	.089	.089	.089	.089	.089
.240 *	.060	.071	.078	.082	.086	.089	.091	.092	.094	.095	.095	.096	.092	.092	.092	.092	.092	.092	.092	.092
.245 *	.062	.073	.080	.085	.089	.091	.094	.095	.097	.098	.098	.099	.096	.096	.096	.096	.096	.096	.096	.096
.250 *	.064	.075	.083	.088	.091	.094	.097	.098	.100	.101	.102	.102	.099	.099	.099	.099	.099	.099	.099	.099

Tabla 7. Continuación. Aforador de 40 x 180 cm.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.255	.046	.078	.085	.090	.094	.097	.099	.101	.103	.104	.105	.105	.106	.102	.102	.102	.102	.102	.102	.102
.260	.048	.080	.087	.093	.097	.100	.102	.104	.106	.107	.108	.109	.109	.106	.106	.105	.105	.106	.105	.105
.265	.070	.082	.090	.095	.099	.103	.105	.107	.109	.110	.111	.112	.112	.109	.109	.109	.109	.109	.109	.109
.270	.071	.084	.092	.098	.102	.106	.108	.110	.112	.114	.115	.115	.116	.112	.112	.112	.112	.112	.112	.112
.275	.073	.086	.095	.101	.105	.109	.111	.114	.115	.117	.118	.119	.119	.120	.116	.116	.116	.116	.116	.115
.280	.075	.089	.097	.103	.108	.111	.114	.117	.119	.120	.121	.122	.123	.123	.119	.119	.119	.119	.119	.119
.285	.077	.091	.100	.106	.111	.114	.117	.120	.122	.123	.125	.126	.126	.127	.123	.123	.123	.123	.123	.123
.290	.079	.093	.102	.109	.113	.117	.121	.123	.125	.127	.128	.129	.130	.130	.126	.126	.126	.126	.126	.126
.295	.081	.095	.105	.111	.116	.120	.124	.126	.128	.130	.132	.133	.133	.134	.134	.130	.130	.130	.130	.130
.300	.083	.098	.107	.114	.119	.123	.127	.129	.132	.134	.135	.136	.137	.138	.138	.134	.134	.134	.134	.134
.305	.085	.100	.110	.117	.122	.126	.130	.133	.135	.137	.138	.140	.141	.141	.142	.137	.137	.137	.137	.137
.310	.087	.102	.112	.119	.125	.129	.133	.136	.138	.140	.142	.143	.144	.145	.146	.141	.141	.141	.141	.141
.315	.089	.105	.115	.122	.128	.133	.136	.139	.142	.144	.145	.147	.148	.149	.149	.150	.145	.145	.145	.145
.320	.091	.107	.117	.125	.131	.136	.139	.143	.145	.147	.149	.150	.152	.153	.153	.154	.149	.149	.149	.149
.325	.093	.109	.120	.128	.134	.139	.143	.146	.149	.151	.153	.154	.155	.156	.157	.157	.152	.152	.152	.152
.330	.095	.112	.123	.131	.137	.142	.146	.149	.152	.154	.156	.158	.159	.160	.161	.161	.156	.155	.155	.156
.335	.097	.114	.125	.134	.140	.145	.149	.153	.155	.158	.160	.162	.163	.164	.165	.165	.166	.160	.160	.160
.340	.099	.117	.128	.136	.143	.148	.152	.156	.159	.161	.164	.165	.167	.168	.169	.169	.170	.164	.164	.164
.345	.101	.119	.131	.139	.146	.151	.156	.159	.162	.165	.167	.169	.170	.172	.173	.173	.174	.168	.168	.168
.350	.103	.122	.134	.142	.149	.155	.159	.163	.166	.169	.171	.173	.174	.176	.177	.177	.178	.172	.172	.172
.355	.105	.124	.136	.145	.152	.158	.162	.166	.170	.172	.175	.177	.178	.179	.181	.181	.182	.175	.175	.175
.360	.107	.126	.139	.148	.155	.161	.166	.170	.173	.176	.178	.180	.182	.183	.185	.185	.186	.187	.180	.180
.365	.109	.129	.142	.151	.158	.164	.169	.173	.177	.180	.182	.184	.186	.187	.189	.190	.190	.191	.185	.185
.370	.111	.131	.144	.154	.162	.168	.173	.177	.180	.183	.186	.188	.190	.191	.193	.194	.194	.195	.189	.189
.375	.113	.134	.147	.157	.165	.171	.176	.180	.184	.187	.190	.192	.194	.195	.197	.198	.199	.199	.200	.193
.380	.115	.137	.150	.160	.168	.174	.179	.184	.188	.191	.194	.196	.198	.199	.201	.202	.203	.203	.204	.197
.385	.117	.139	.153	.163	.171	.178	.183	.187	.191	.195	.197	.200	.202	.204	.205	.206	.207	.208	.208	.202
.390	.120	.142	.156	.166	.174	.181	.186	.191	.195	.198	.201	.204	.206	.208	.209	.210	.211	.212	.213	.205
.395	.122	.144	.159	.169	.178	.184	.190	.195	.199	.202	.205	.208	.210	.212	.213	.215	.216	.216	.217	.218
.400	.124	.147	.161	.172	.181	.188	.193	.198	.202	.206	.209	.212	.214	.216	.217	.219	.220	.221	.221	.222
.405	.126	.149	.164	.175	.184	.191	.197	.202	.206	.210	.213	.216	.218	.220	.222	.223	.224	.225	.226	.225
.410	.128	.152	.167	.178	.187	.195	.201	.206	.210	.214	.217	.220	.222	.224	.226	.227	.229	.230	.230	.231
.415	.130	.155	.170	.182	.191	.198	.204	.209	.214	.218	.221	.224	.226	.228	.230	.232	.233	.234	.235	.236
.420	.133	.157	.173	.185	.194	.201	.208	.213	.218	.222	.225	.228	.230	.233	.234	.236	.237	.239	.239	.240
.425	.135	.160	.176	.188	.197	.205	.211	.217	.221	.225	.229	.232	.235	.237	.239	.240	.242	.243	.244	.245
.430	.137	.163	.179	.191	.201	.208	.215	.221	.225	.229	.233	.236	.239	.241	.243	.245	.246	.247	.248	.249
.435	.139	.165	.182	.194	.204	.212	.219	.224	.229	.233	.237	.240	.243	.245	.247	.249	.251	.252	.253	.254
.440	.142	.168	.185	.197	.207	.215	.222	.228	.233	.237	.241	.244	.247	.250	.252	.254	.255	.257	.258	.259
.445	.144	.171	.188	.201	.211	.219	.226	.232	.237	.241	.245	.249	.251	.254	.256	.258	.260	.261	.262	.263
.450	.146	.173	.191	.204	.214	.223	.230	.236	.241	.245	.249	.253	.256	.258	.261	.263	.264	.266	.267	.268
.455	.148	.176	.194	.207	.217	.226	.233	.239	.245	.249	.253	.257	.260	.263	.265	.267	.269	.270	.272	.273
.460	.151	.179	.197	.210	.221	.230	.237	.243	.249	.253	.258	.261	.264	.267	.270	.272	.273	.275	.276	.277
.465	.153	.181	.200	.214	.224	.233	.241	.247	.253	.258	.262	.265	.269	.272	.274	.276	.278	.280	.281	.282
.470	.155	.184	.203	.217	.228	.237	.245	.251	.257	.262	.266	.270	.273	.276	.279	.281	.283	.284	.286	.287
.475	.158	.187	.206	.220	.231	.241	.248	.255	.261	.266	.270	.274	.277	.280	.283	.285	.287	.289	.291	.292
.480	.160	.190	.209	.223	.235	.244	.252	.259	.265	.270	.274	.278	.282	.285	.288	.290	.292	.294	.295	.297
.485	.162	.193	.212	.227	.238	.248	.256	.263	.269	.274	.279	.283	.286	.289	.292	.295	.297	.299	.300	.302
.490	.165	.195	.215	.230	.242	.252	.260	.267	.273	.278	.283	.287	.291	.294	.297	.299	.301	.303	.305	.306
.495	.167	.198	.218	.233	.245	.255	.264	.271	.277	.282	.287	.291	.295	.298	.301	.304	.306	.308	.310	.311
.500	.169	.201	.221	.237	.249	.259	.267	.275	.281	.287	.291	.296	.300	.303	.306	.309	.311	.313	.315	.316

Tabla 7. Continuación. Aforador de 40 x 180 cm.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
505 *	.172	.204	.225	.240	.252	.263	.271	.279	.285	.291	.296	.300	.304	.308	.311	.313	.316	.318	.320	.321
510 *	.174	.207	.228	.244	.256	.266	.275	.283	.289	.295	.300	.305	.309	.312	.315	.318	.320	.323	.324	.326
515 *	.177	.209	.231	.247	.260	.270	.279	.287	.293	.299	.304	.309	.313	.317	.320	.323	.325	.327	.329	.331
520 *	.179	.212	.234	.250	.263	.274	.283	.291	.298	.304	.309	.313	.318	.321	.325	.328	.330	.332	.334	.336
525 *	.181	.215	.237	.254	.267	.278	.287	.295	.302	.308	.313	.318	.322	.326	.329	.332	.335	.337	.339	.341
530 *	.184	.218	.240	.257	.271	.282	.291	.299	.306	.312	.318	.322	.327	.331	.334	.337	.340	.342	.344	.346
535 *	.186	.221	.244	.261	.274	.285	.295	.303	.310	.316	.322	.327	.331	.335	.339	.342	.345	.347	.349	.351
540 *	.189	.224	.247	.264	.278	.289	.299	.307	.314	.321	.326	.332	.336	.340	.344	.347	.350	.352	.354	.356
545 *	.191	.227	.250	.268	.281	.293	.303	.311	.319	.325	.331	.336	.341	.345	.348	.352	.355	.357	.359	.361
550 *	.194	.230	.253	.271	.285	.297	.307	.315	.323	.330	.335	.341	.345	.349	.353	.356	.359	.362	.365	.367
555 *	.196	.233	.257	.275	.289	.301	.311	.320	.327	.334	.340	.345	.350	.354	.358	.361	.364	.367	.370	.372
560 *	.198	.236	.260	.278	.293	.305	.315	.324	.332	.338	.344	.350	.355	.359	.363	.366	.369	.372	.375	.377
565 *	.201	.239	.263	.282	.296	.309	.319	.328	.336	.343	.349	.354	.359	.364	.368	.371	.374	.377	.380	.382
570 *	.203	.242	.266	.285	.300	.312	.323	.332	.340	.347	.353	.359	.364	.369	.373	.376	.379	.382	.385	.387
575 *	.206	.245	.270	.289	.304	.316	.327	.336	.344	.352	.358	.364	.369	.373	.377	.381	.384	.387	.390	.393
580 *	.208	.248	.273	.292	.308	.320	.331	.341	.349	.356	.363	.368	.374	.378	.382	.386	.390	.393	.395	.398
585 *	.211	.251	.276	.296	.311	.324	.335	.345	.353	.361	.367	.373	.378	.383	.387	.391	.395	.398	.401	.403
590 *	.214	.254	.280	.299	.315	.328	.339	.349	.358	.365	.372	.378	.383	.388	.392	.396	.400	.403	.406	.408
595 *	.216	.257	.283	.303	.319	.332	.344	.353	.362	.370	.376	.382	.388	.393	.397	.401	.405	.408	.411	.414
600 *	.219	.260	.287	.307	.323	.336	.348	.358	.366	.374	.381	.387	.393	.398	.402	.406	.410	.413	.416	.419

Tabla 7. Continuación. Aforador de 40 x 180 cm.

h_a metros	$(h_a - h_b)$, metros									
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.505 *	.323	.324	.325	.325	.326	.315	.315	.315	.315	.315
.510 *	.328	.329	.330	.331	.331	.332	.321	.321	.321	.321
.515 *	.333	.334	.335	.336	.336	.337	.326	.326	.326	.326
.520 *	.338	.339	.340	.341	.342	.342	.331	.331	.331	.331
.525 *	.343	.344	.345	.346	.347	.348	.336	.336	.336	.336
.530 *	.348	.349	.350	.351	.352	.353	.353	.342	.342	.342
.535 *	.353	.354	.356	.357	.358	.358	.359	.347	.347	.347
.540 *	.358	.360	.361	.362	.363	.364	.364	.352	.352	.352
.545 *	.363	.365	.366	.367	.368	.369	.370	.358	.358	.358
.550 *	.368	.370	.371	.373	.374	.374	.375	.376	.363	.363
.555 *	.374	.375	.377	.378	.379	.380	.381	.381	.369	.369
.560 *	.379	.381	.382	.383	.384	.385	.386	.387	.374	.374
.565 *	.384	.385	.387	.389	.390	.391	.392	.392	.380	.380
.570 *	.389	.391	.393	.394	.395	.396	.397	.398	.398	.385
.575 *	.395	.397	.398	.400	.401	.402	.403	.404	.404	.391
.580 *	.400	.402	.404	.405	.406	.408	.408	.409	.410	.396
.585 *	.405	.407	.409	.411	.412	.413	.414	.415	.415	.402
.590 *	.411	.413	.415	.416	.418	.419	.420	.421	.421	.422
.595 *	.416	.418	.420	.422	.423	.424	.425	.426	.427	.428
.600 *	.421	.424	.425	.427	.429	.430	.431	.432	.433	.433

Tabla 7. Continuación. Aforador de 40 x 180 cm.

h_a metros	$(h_a - h_b)$, metros									
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.255	.102	.102	.102	.102	.102	.102	.102	.102	.102	.102
.260	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106
.265	.109	.109	.109	.109	.109	.109	.109	.109	.109	.109
.270	.112	.112	.112	.112	.112	.112	.112	.112	.112	.112
.275	.116	.116	.116	.116	.116	.116	.116	.116	.116	.116
.280	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119
.285	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123
.290	.126	.126	.126	.126	.126	.126	.126	.126	.126	.126
.295	.130	.130	.130	.130	.130	.130	.130	.130	.130	.130
.300	.134	.134	.134	.134	.134	.134	.134	.134	.134	.134
.305	.137	.137	.137	.137	.137	.137	.137	.137	.137	.137
.310	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141
.315	.145	.145	.145	.145	.145	.145	.145	.145	.145	.145
.320	.149	.149	.149	.149	.149	.149	.149	.149	.149	.149
.325	.152	.152	.152	.152	.152	.152	.152	.152	.152	.152
.330	.156	.156	.156	.156	.156	.156	.156	.156	.156	.156
.335	.160	.160	.160	.160	.160	.160	.160	.160	.160	.160
.340	.164	.164	.164	.164	.164	.164	.164	.164	.164	.164
.345	.168	.168	.168	.168	.168	.168	.168	.168	.168	.168
.350	.172	.172	.172	.172	.172	.172	.172	.172	.172	.172
.355	.176	.176	.176	.176	.176	.176	.176	.176	.176	.176
.360	.180	.180	.180	.180	.180	.180	.180	.180	.180	.180
.365	.185	.185	.185	.185	.185	.185	.185	.185	.185	.185
.370	.189	.189	.189	.189	.189	.189	.189	.189	.189	.189
.375	.193	.193	.193	.193	.193	.193	.193	.193	.193	.193
.380	.197	.197	.197	.197	.197	.197	.197	.197	.197	.197
.385	.202	.202	.202	.202	.202	.202	.202	.202	.202	.202
.390	.206	.206	.206	.206	.206	.206	.206	.206	.206	.206
.395	.210	.210	.210	.210	.210	.210	.210	.210	.210	.210
.400	.215	.215	.215	.215	.215	.215	.215	.215	.215	.215
.405	.219	.219	.219	.219	.219	.219	.219	.219	.219	.219
.410	.224	.224	.224	.224	.224	.224	.224	.224	.224	.224
.415	.228	.228	.228	.228	.228	.228	.228	.228	.228	.228
.420	.241	.233	.233	.233	.233	.233	.233	.233	.233	.233
.425	.245	.237	.237	.237	.237	.237	.237	.237	.237	.237
.430	.250	.242	.242	.242	.242	.242	.242	.242	.242	.242
.435	.255	.255	.247	.247	.247	.247	.247	.247	.247	.247
.440	.259	.260	.251	.251	.251	.251	.251	.251	.251	.251
.445	.264	.265	.256	.256	.256	.256	.256	.256	.256	.256
.450	.269	.269	.261	.261	.261	.261	.261	.261	.261	.261
.455	.274	.274	.275	.266	.266	.266	.266	.266	.266	.266
.460	.278	.279	.280	.270	.270	.270	.270	.270	.270	.270
.465	.283	.284	.284	.275	.275	.275	.275	.275	.275	.275
.470	.288	.289	.289	.280	.280	.280	.280	.280	.280	.280
.475	.293	.294	.294	.295	.285	.285	.285	.285	.285	.285
.480	.298	.299	.299	.300	.290	.290	.290	.290	.290	.290
.485	.303	.304	.304	.305	.295	.295	.295	.295	.295	.295
.490	.308	.309	.309	.310	.300	.300	.300	.300	.300	.300
.495	.313	.314	.314	.315	.316	.305	.305	.305	.305	.305
.500	.318	.319	.320	.320	.321	.310	.310	.310	.310	.310

Tabla 8. Descarga Sumergida en m^3/seg. para el aforador "sin cuello" de 60 x 180 cm.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.015	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.020	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.025	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.030	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.035	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.040	.007	.008	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.045	.008	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.050	.010	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011
.055	.011	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.060	.013	.014	.015	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.065	.014	.016	.017	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
.070	.016	.018	.019	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018
.075	.018	.020	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021
.080	.019	.022	.023	.024	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023
.085	.021	.024	.025	.026	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025
.090	.023	.026	.028	.029	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028	.028
.095	.025	.028	.030	.031	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030
.100	.027	.031	.033	.034	.034	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033
.105	.028	.033	.035	.036	.037	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036
.110	.030	.035	.038	.039	.040	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039
.115	.032	.037	.040	.042	.043	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042
.120	.034	.040	.043	.045	.046	.046	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045
.125	.036	.042	.046	.047	.049	.049	.048	.048	.048	.048	.048	.048	.048	.048	.048	.048	.048	.048	.048	.048
.130	.039	.045	.048	.050	.052	.052	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051
.135	.041	.047	.051	.053	.055	.055	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054
.140	.043	.050	.054	.056	.058	.059	.060	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057
.145	.045	.052	.057	.059	.061	.062	.063	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061
.150	.047	.055	.060	.063	.064	.066	.066	.064	.064	.064	.064	.064	.064	.064	.064	.064	.064	.064	.064	.064
.155	.049	.058	.063	.066	.068	.069	.070	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068
.160	.052	.060	.065	.069	.071	.073	.074	.074	.072	.072	.072	.072	.072	.072	.072	.072	.072	.072	.072	.072
.165	.054	.063	.069	.072	.075	.076	.077	.078	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075
.170	.056	.066	.072	.075	.078	.080	.081	.082	.079	.079	.079	.079	.079	.079	.079	.079	.079	.079	.079	.079
.175	.059	.069	.075	.079	.081	.083	.085	.086	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083
.180	.061	.072	.078	.082	.085	.087	.089	.090	.090	.087	.087	.087	.087	.087	.087	.087	.087	.087	.087	.087
.185	.063	.074	.081	.085	.089	.091	.092	.094	.094	.091	.091	.091	.091	.091	.091	.091	.091	.091	.091	.091
.190	.066	.077	.084	.089	.092	.095	.096	.098	.098	.095	.095	.095	.095	.095	.095	.095	.095	.095	.095	.095
.195	.068	.080	.087	.092	.096	.098	.100	.102	.102	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099
.200	.071	.083	.091	.096	.099	.102	.104	.106	.107	.107	.104	.104	.104	.104	.104	.104	.104	.104	.104	.104
.205	.073	.086	.094	.099	.103	.106	.108	.110	.111	.112	.108	.108	.108	.108	.108	.108	.108	.108	.108	.108
.210	.076	.089	.097	.103	.107	.110	.112	.114	.115	.116	.112	.112	.112	.112	.112	.112	.112	.112	.112	.112
.215	.078	.092	.101	.106	.111	.114	.116	.118	.120	.120	.117	.117	.117	.117	.117	.117	.117	.117	.117	.117
.220	.081	.095	.104	.110	.115	.118	.121	.123	.124	.125	.125	.121	.121	.121	.121	.121	.121	.121	.121	.121
.225	.084	.098	.107	.114	.118	.122	.125	.127	.128	.129	.130	.126	.126	.126	.126	.126	.126	.126	.126	.126
.230	.086	.102	.111	.118	.122	.126	.129	.131	.133	.134	.135	.130	.130	.130	.130	.130	.130	.130	.130	.130
.235	.089	.105	.114	.121	.126	.130	.133	.136	.137	.139	.139	.135	.135	.135	.135	.135	.135	.135	.135	.135
.240	.092	.108	.118	.125	.130	.134	.138	.140	.142	.143	.144	.145	.140	.140	.140	.140	.140	.140	.140	.140
.245	.094	.111	.121	.129	.134	.139	.142	.144	.146	.148	.149	.150	.145	.145	.145	.145	.145	.145	.145	.145
.250	.097	.114	.125	.133	.138	.143	.146	.149	.151	.153	.154	.155	.150	.150	.150	.150	.150	.150	.150	.150

Tabla 8. Continuación. Aforador de 60 x 180 cm.

h_a metros	$(h_a \times h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.255 •	.100	.118	.129	.137	.142	.147	.151	.154	.156	.157	.159	.160	.160	.155	.155	.155	.155	.155	.155	.155
.260 •	.103	.121	.132	.140	.147	.151	.155	.158	.161	.162	.164	.165	.165	.160	.160	.160	.160	[illegible]	.160	[illegible]
.265 •	.105	.124	.136	.144	.151	.156	.160	.163	.165	.167	.169	.170	.170	.165	.165	.165	.165	.165	.165	[illegible]
.270 •	.108	.128	.140	.148	.155	.160	.164	.167	.170	.172	.174	.175	.175	.170	.170	.170	.170	[illegible]	.170	[illegible]
.275 •	.111	.131	.143	.152	.159	.164	.169	.172	.175	.177	.179	.180	.181	.181	.175	.175	.175	.175	.175	.175
.280 •	.114	.134	.147	.156	.163	.169	.173	.177	.180	.182	.184	.185	.186	.187	.180	.180	[illegible]	[illegible]	[illegible]	.180
.285 •	.117	.138	.151	.160	.168	.173	.178	.182	.185	.187	.189	.190	.191	.192	.185	.185	.185	.185	.185	.185
.290 •	.120	.141	.155	.164	.172	.178	.183	.186	.190	.192	.194	.196	.197	.198	.191	.191	.191	.191	.191	.191
.295 •	.122	.145	.159	.169	.176	.182	.187	.191	.195	.197	.199	.201	.202	.203	.204	.197	.197	.197	.197	.197
.300 •	.125	.148	.162	.173	.181	.187	.192	.196	.200	.202	.205	.206	.208	.209	.209	.202	.202	[illegible]	.202	.202
.305 •	.128	.152	.166	.177	.185	.192	.197	.201	.205	.208	.210	.212	.213	.214	.215	.208	.208	.208	.208	.208
.310 •	.131	.155	.170	.181	.189	.196	.202	.206	.210	.212	.215	.217	.219	.220	.221	.213	.213	.213	.213	.213
.315 •	.134	.159	.174	.185	.194	.201	.206	.211	.215	.218	.221	.223	.224	.225	.226	.227	.219	.219	.219	.219
.320 •	.137	.162	.178	.190	.198	.206	.211	.216	.220	.223	.226	.228	.230	.231	.232	.233	.225	.225	.225	.225
.325 •	.140	.166	.182	.194	.203	.210	.216	.221	.225	.229	.231	.234	.235	.237	.238	.239	.231	.231	.231	.231
.330 •	.143	.169	.186	.198	.207	.215	.221	.226	.230	.234	.237	.239	.241	.243	.244	.245	.237	.237	.237	.237
.335 •	.146	.173	.190	.202	.212	.220	.226	.231	.236	.239	.242	.245	.247	.248	.250	.251	.251	.243	.243	.243
.340 •	.149	.177	.194	.207	.217	.225	.231	.236	.241	.245	.248	.250	.253	.254	.255	.257	.257	.249	.249	.249
.345 •	.153	.180	.198	.211	.221	.229	.236	.242	.246	.250	.253	.256	.258	.260	.262	.263	.263	.255	.255	.255
.350 •	.156	.184	.202	.216	.226	.234	.241	.247	.252	.256	.259	.262	.264	.266	.268	.269	.270	.261	.261	.261
.355 •	.159	.188	.206	.220	.231	.239	.246	.252	.257	.261	.265	.268	.270	.272	.274	.275	.276	.267	.267	.267
.360 •	.162	.192	.211	.224	.235	.244	.251	.257	.262	.267	.270	.273	.276	.278	.280	.281	.282	.273	.273	.273
.365 •	.165	.195	.215	.229	.240	.249	.256	.263	.268	.272	.276	.279	.282	.284	.286	.287	.288	[illegible]	[illegible]	.279
.370 •	.168	.199	.219	.233	.245	.254	.262	.268	.273	.278	.282	.285	.288	.290	.292	.293	.295	.285	.285	.286
.375 •	.172	.203	.223	.238	.250	.259	.267	.273	.279	.284	.288	.291	.294	.296	.298	.300	.301	.292	.292	.292
.380 •	.175	.207	.227	.243	.254	.264	.272	.279	.284	.289	.293	.297	.300	.302	.304	.306	.307	.299	.299	.299
.385 •	.178	.211	.232	.247	.259	.269	.277	.284	.290	.295	.299	.303	.306	.308	.311	.312	.314	.305	.305	.305
.390 •	.181	.215	.236	.252	.264	.274	.283	.290	.296	.301	.305	.309	.312	.315	.317	.319	.320	.312	.312	.312
.395 •	.184	.218	.240	.256	.269	.279	.288	.295	.301	.306	.311	.315	.318	.321	.323	.325	.327	.319	.319	.319
.400 •	.188	.222	.245	.261	.274	.284	.293	.301	.307	.312	.317	.321	.324	.327	.330	.332	.333	.325	.325	.325
.405 •	.191	.226	.249	.266	.279	.290	.299	.306	.313	.318	.323	.327	.330	.333	.336	.338	.340	.331	.332	.333
.410 •	.194	.230	.253	.270	.284	.295	.304	.312	.318	.324	.329	.333	.337	.340	.342	.345	.346	.338	.339	.339
.415 •	.198	.234	.258	.275	.289	.300	.309	.317	.324	.330	.335	.339	.343	.346	.349	.351	.353	.345	.346	.347
.420 •	.201	.238	.262	.280	.294	.305	.315	.323	.330	.336	.341	.345	.349	.353	.355	.358	.360	.351	.353	.354
.425 •	.204	.242	.267	.285	.299	.311	.320	.329	.336	.342	.347	.352	.356	.359	.362	.364	.367	.358	.360	.361
.430 •	.208	.246	.271	.289	.304	.316	.326	.334	.341	.348	.353	.358	.362	.365	.368	.371	.373	.365	.367	.368
.435 •	.211	.250	.276	.294	.309	.321	.331	.340	.347	.354	.359	.364	.368	.372	.375	.378	.380	.372	.374	.375
.440 •	.215	.254	.280	.299	.314	.326	.337	.346	.353	.360	.365	.370	.375	.378	.382	.384	.387	.379	.381	.382
.445 •	.218	.258	.285	.304	.319	.332	.342	.351	.359	.366	.372	.377	.381	.385	.388	.391	.394	.386	.388	.389
.450 •	.221	.263	.289	.309	.324	.337	.348	.357	.365	.372	.378	.383	.388	.392	.395	.398	.401	.393	.395	.396
.455 •	.225	.267	.294	.314	.330	.343	.354	.363	.371	.378	.384	.389	.394	.398	.402	.405	.407	.410	.412	.413
.460 •	.228	.271	.298	.319	.335	.348	.359	.369	.377	.384	.390	.396	.401	.405	.409	.412	.414	.417	.419	.420
.465 •	.232	.275	.303	.324	.340	.354	.365	.375	.383	.390	.397	.402	.407	.412	.415	.419	.421	.424	.426	.428
.470 •	.235	.279	.307	.329	.345	.359	.371	.381	.389	.397	.403	.409	.414	.418	.422	.425	.428	.431	.433	.435
.475 •	.239	.283	.312	.334	.351	.365	.376	.386	.395	.403	.409	.415	.420	.425	.429	.432	.435	.438	.440	.442
.480 •	.242	.288	.317	.339	.356	.370	.382	.392	.401	.409	.416	.422	.427	.432	.436	.439	.443	.445	.448	.450
.485 •	.246	.292	.321	.344	.361	.376	.388	.398	.407	.415	.422	.428	.434	.439	.443	.446	.45	.452	.455	.457
.490 •	.250	.296	.326	.349	.366	.381	.394	.404	.414	.422	.429	.435	.440	.445	.450	.453	.457	[illegible]	.462	.464
.495 •	.253	.300	.331	.354	.372	.387	.399	.410	.420	.428	.435	.442	.447	.452	.457	.461	.464	[illegible]	.470	.472
.500 •	.257	.305	.336	.359	.377	.392	.405	.416	.426	.434	.442	.448	.454	.459	.464	.468	.471	.474	.477	.479

Tabla 8. Continuación. Aforador de 60 x 180 cm.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.505 *	.260	.309	.340	.364	.383	.398	.411	.422	.432	.441	.448	.455	.461	.466	.471	.475	.478	.482	.484	.487
.510 *	.264	.313	.345	.369	.388	.404	.417	.429	.438	.447	.455	.462	.468	.473	.478	.482	.486	.489	.492	.494
.515 *	.268	.318	.350	.374	.394	.409	.423	.435	.445	.454	.461	.468	.474	.480	.485	.489	.493	.496	.499	.502
.520 *	.271	.322	.355	.379	.399	.415	.429	.441	.451	.460	.468	.475	.481	.487	.492	.496	.500	.504	.507	.509
.525 *	.275	.326	.360	.385	.404	.421	.435	.447	.457	.467	.475	.482	.488	.494	.499	.504	.508	.511	.514	.517
.530 *	.278	.331	.364	.390	.410	.427	.441	.453	.464	.473	.481	.489	.495	.501	.506	.511	.515	.519	.522	.525
.535 *	.282	.335	.369	.395	.415	.432	.447	.459	.470	.480	.488	.496	.502	.508	.513	.518	.522	.526	.529	.532
.540 *	.286	.339	.374	.400	.421	.438	.453	.466	.477	.486	.495	.502	.509	.515	.521	.526	.530	.534	.537	.540
.545 *	.290	.344	.379	.406	.427	.444	.459	.472	.483	.493	.502	.509	.516	.522	.528	.533	.537	.541	.545	.548
.550 *	.293	.348	.384	.411	.432	.450	.465	.478	.489	.499	.508	.516	.523	.530	.535	.540	.545	.549	.552	.556
.555 *	.297	.353	.389	.416	.438	.456	.471	.484	.496	.506	.515	.523	.530	.537	.543	.548	.552	.556	.560	.563
.560 *	.301	.357	.394	.421	.443	.462	.477	.491	.502	.513	.522	.530	.537	.544	.550	.555	.560	.564	.568	.571
.565 *	.305	.362	.399	.427	.449	.468	.483	.497	.509	.519	.529	.537	.545	.551	.557	.563	.567	.572	.576	.579
.570 *	.308	.366	.404	.432	.455	.474	.490	.503	.515	.526	.536	.544	.552	.559	.565	.570	.575	.580	.583	.587
.575 *	.312	.371	.409	.438	.460	.480	.496	.510	.522	.533	.543	.551	.559	.566	.572	.578	.583	.587	.591	.595
.580 *	.316	.375	.414	.443	.466	.486	.502	.516	.529	.540	.549	.558	.566	.573	.580	.585	.590	.595	.599	.603
.585 *	.320	.380	.419	.448	.472	.492	.508	.523	.535	.546	.556	.565	.573	.581	.587	.593	.598	.603	.607	.611
.590 *	.324	.384	.424	.454	.478	.498	.514	.529	.542	.553	.563	.572	.581	.588	.594	.600	.606	.611	.615	.619
.595 *	.327	.389	.429	.459	.483	.504	.521	.536	.549	.560	.570	.580	.588	.595	.602	.608	.614	.618	.623	.627
.600 *	.331	.394	.434	.465	.489	.510	.527	.542	.555	.567	.577	.587	.595	.603	.610	.616	.621	.626	.631	.635

Tabla 8. Continuación. Aforador de 60 x 180.

h_a metros	$(h_a - h_h)$, metros									
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.505 *	.489	.491	.492	.493	.494	.477	.477	.477	.477	.477
.510 *	.496	.498	.500	.501	.502	.503	.485	.485	.485	.485
.515 *	.504	.506	.508	.509	.510	.511	.493	.493	.493	.493
.520 *	.512	.514	.515	.517	.518	.519	.501	.501	.501	.501
.525 *	.519	.521	.523	.525	.526	.527	.509	.509	.509	.509
.530 *	.527	.529	.531	.533	.534	.535	.536	.517	.517	.517
.535 *	.535	.537	.539	.541	.542	.543	.544	.525	.525	.525
.540 *	.543	.545	.547	.549	.550	.551	.552	.533	.533	.533
.545 *	.551	.553	.555	.557	.558	.559	.560	.541	.541	.541
.550 *	.558	.561	.563	.565	.566	.568	.569	.549	.550	.550
.555 *	.566	.569	.571	.573	.574	.576	.577	.578	.558	.558
.560 *	.574	.577	.579	.581	.583	.584	.585	.586	.566	.566
.565 *	.582	.585	.587	.589	.591	.592	.594	.595	.575	.575
.570 *	.590	.593	.595	.597	.599	.601	.602	.603	.604	.583
.575 *	.598	.601	.604	.606	.608	.609	.611	.612	.612	.591
.580 *	.606	.609	.612	.614	.616	.618	.619	.620	.621	.600
.585 *	.614	.617	.620	.622	.624	.626	.628	.629	.630	.609
.590 *	.622	.625	.628	.631	.633	.635	.636	.637	.638	.639
.595 *	.631	.634	.637	.639	.641	.643	.645	.646	.647	.648
.600 *	.639	.642	.645	.647	.650	.652	.653	.655	.656	.657

Tabla 8. Continuación. Aforador de 60 x 180 cm.

h_a metros	$(h_a - h_b)$, metros									
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.255 *	.155	.155	.155	.155	.155	.155	.155	.155	.155	.155
.260 *	.160	.160	.160	.160	.160	.160	.160	.160	.160	.160
.265 *	.165	.165	.165	.165	.165	.165	.165	.165	.165	.165
.270 *	.170	.170	.170	.170	.170	.170	.170	.170	.170	.170
.275 *	.175	.175	.175	.175	.175	.175	.175	.175	.175	.175
.280 *	.180	.180	.180	.180	.180	.180	.180	.180	.180	.180
.285 *	.186	.186	.186	.186	.186	.186	.186	.186	.186	.186
.290 *	.191	.191	.191	.191	.191	.191	.191	.191	.191	.191
.295 *	.197	.197	.197	.197	.197	.197	.197	.197	.197	.197
.300 *	.202	.202	.202	.202	.202	.202	.202	.202	.202	.202
.305 *	.208	.208	.208	.208	.208	.208	.208	.208	.208	.208
.310 *	.213	.213	.213	.213	.213	.213	.213	.213	.213	.213
.315 *	.219	.219	.219	.219	.219	.219	.219	.219	.219	.219
.320 *	.225	.225	.225	.225	.225	.225	.225	.225	.225	.225
.325 *	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231
.330 *	.237	.237	.237	.237	.237	.237	.237	.237	.237	.237
.335 *	.243	.243	.243	.243	.243	.243	.243	.243	.243	.243
.340 *	.249	.249	.249	.249	.249	.249	.249	.249	.249	.249
.345 *	.255	.255	.255	.255	.255	.255	.255	.255	.255	.255
.350 *	.261	.261	.261	.261	.261	.261	.261	.261	.261	.261
.355 *	.267	.267	.267	.267	.267	.267	.267	.267	.267	.267
.360 *	.273	.273	.273	.273	.273	.273	.273	.273	.273	.273
.365 *	.279	.279	.279	.279	.279	.279	.279	.279	.279	.279
.370 *	.286	.286	.286	.286	.286	.286	.286	.286	.286	.286
.375 *	.292	.292	.292	.292	.292	.292	.292	.292	.292	.292
.380 *	.299	.299	.299	.299	.299	.299	.299	.299	.299	.299
.385 *	.305	.305	.305	.305	.305	.305	.305	.305	.305	.305
.390 *	.312	.312	.312	.312	.312	.312	.312	.312	.312	.312
.395 *	.318	.318	.318	.318	.318	.318	.318	.318	.318	.318
.400 *	.325	.325	.325	.325	.325	.325	.325	.325	.325	.325
.405 *	.332	.332	.332	.332	.332	.332	.332	.332	.332	.332
.410 *	.339	.339	.339	.339	.339	.339	.339	.339	.339	.339
.415 *	.358	.345	.345	.345	.345	.345	.345	.345	.345	.345
.420 *	.365	.352	.352	.352	.352	.352	.352	.352	.352	.352
.425 *	.372	.359	.359	.359	.359	.359	.359	.359	.359	.359
.430 *	.379	.366	.366	.366	.366	.366	.366	.366	.366	.366
.435 *	.386	.386	.373	.373	.373	.373	.373	.373	.373	.373
.440 *	.393	.394	.380	.380	.380	.380	.380	.380	.380	.380
.445 *	.400	.401	.388	.388	.388	.388	.388	.388	.388	.388
.450 *	.407	.408	.395	.395	.395	.395	.395	.395	.395	.395
.455 *	.415	.416	.416	.402	.402	.402	.402	.402	.402	.402
.460 *	.422	.423	.424	.409	.409	.409	.409	.409	.409	.409
.465 *	.429	.430	.431	.417	.417	.417	.417	.417	.417	.417
.470 *	.436	.438	.439	.424	.424	.424	.424	.424	.424	.424
.475 *	.444	.445	.446	.447	.432	.432	.432	.432	.432	.432
.480 *	.451	.453	.454	.454	.439	.439	.439	.439	.439	.439
.485 *	.459	.460	.461	.462	.447	.447	.447	.447	.447	.447
.490 *	.466	.468	.469	.470	.454	.454	.454	.454	.454	.454
.495 *	.474	.475	.477	.478	.478	.462	.462	.462	.462	.462
.500 *	.481	.483	.484	.485	.486	.470	.470	.470	.470	.470

Tabla 9. Descarga Sumergida en m^3/seg., para el aforador "sin cuello" de 30 x 270 centímetros.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.015 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.020 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.025 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.030 *	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.035 *	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.040 *	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.045 *	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.050 *	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006
.055 *	.006	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.060 *	.007	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
.065 *	.008	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.070 *	.009	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010
.075 *	.010	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011
.080 *	.011	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.085 *	.012	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013	.013
.090 *	.013	.014	.015	.015	.015	.015	.015	.015	.015	015	.015	.015	.015	.015	.015	.015	.015	.015	.015	.015
.095 *	.014	.015	.016	.016	.016	.016	.016	.016	.016	016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
.100 *	.015	.017	.017	.017	.017	.017	.017	.017	.017	017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017
.105 *	.016	.018	.018	.019	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018
.110 *	.018	.019	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
.115 *	.019	.020	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021	.021
.120 *	.020	.022	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023
.125 *	.021	.023	.024	.024	.025	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024
.130 *	.022	.024	.025	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026
.135 *	.024	.026	.027	.027	.028	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027
.140 *	.025	.027	.028	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029	.029
.145 *	.026	.029	.030	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031	.031
.150 *	.027	.030	.031	.032	.032	.033	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032
.155 *	.029	.031	.033	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034
.160 *	.030	.033	.034	.035	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036	.036
.165 *	.031	.034	.036	.037	.038	.038	.037	.037	.037	.037	.037	.037	.037	.037	.037	.037	.037	.037	.037	.037
.170 *	.033	.036	.038	.039	.039	.040	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039	.039
.175 *	.034	.037	.039	.040	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041	.041
.180 *	.035	.039	.041	.042	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043
.185 *	.037	.041	.043	.044	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045	.045
.190 *	.039	.042	.044	.046	.046	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047	.047
.195 *	.040	.044	.046	.047	.048	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049
.200 *	.041	.045	.048	.049	.050	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051
.205 *	.042	.047	.049	.051	.052	.053	.053	.053	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052
.210 *	.044	.049	.051	.053	.054	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
.215 *	.045	.050	.053	.055	.056	.056	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057	.057
.220 *	.047	.052	.055	.056	.058	.058	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059
.225 *	.048	.054	.056	.058	.060	.060	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061	.061
.230 *	.050	.055	.058	.060	.062	.062	.063	.063	.064	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063
.235 *	.051	.057	.060	.062	.064	.064	.065	.065	.066	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065	.065
.240 *	.053	.059	.062	.064	.066	.067	.067	.068	.068	.067	.067	.067	.067	.067	.067	.067	.067	.067	.067	.067
.245 *	.054	.060	.064	.066	.068	.069	.069	.070	.070	.069	.069	.069	.069	.069	.069	.069	.069	.069	.069	.069
.250 *	.056	.062	.065	.068	.070	.071	.071	.072	.072	.072	.072	.072	.072	.072	.072	.072	.072	.072	.072	.072

Tabla 9. Continuación. Aforador de 30 x 270 cm.

h_a metros	$(h_a \times h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.255	.058	.064	.068	.070	.072	.073	.074	.074	.074	.075	.074	.074	.074	.074	.074	.074	.074	.074	.074	.074
.260	.059	.066	.070	.072	.074	.075	.076	.076	.077	.077	.076	.076	.076	.076	.076	.076	.076	.076	.076	.076
.265	.061	.068	.071	.074	.076	.077	.078	.079	.079	.079	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078
.270	.062	.069	.073	.076	.078	.079	.080	.081	.081	.082	.081	.081	.081	.081	.081	.081	.081	.081	.081	.081
.275	.064	.071	.075	.078	.080	.081	.082	.083	.084	.084	.084	.083	.083	.083	.083	.083	.083	.083	.083	.083
.280	.066	.073	.077	.080	.082	.084	.085	.085	.086	.086	.086	.085	.085	.085	.085	.085	.085	.085	.085	.085
.285	.067	.075	.079	.082	.084	.086	.087	.088	.088	.089	.089	.088	.088	.088	.088	.088	.088	.088	.088	.088
.290	.069	.077	.081	.084	.086	.088	.089	.090	.091	.091	.091	.090	.090	.090	.090	.090	.090	.090	.090	.090
.295	.071	.079	.083	.086	.089	.090	.091	.092	.093	.093	.094	.093	.093	.093	.093	.093	.093	.093	.093	.093
.300	.072	.081	.085	.088	.091	.093	.094	.095	.095	.096	.096	.096	.095	.095	.095	.095	.095	.095	.095	.095
.305	.074	.082	.087	.091	.093	.095	.096	.097	.098	.098	.099	.099	.098	.098	.098	.098	.098	.098	.098	.098
.310	.076	.084	.089	.093	.095	.097	.098	.099	.100	.101	.101	.101	.100	.100	.100	.100	.100	.100	.100	.100
.315	.077	.086	.091	.095	.097	.099	.101	.102	.103	.103	.104	.104	.103	.103	.103	.103	.103	.103	.103	.103
.320	.079	.088	.093	.097	.100	.102	.103	.104	.105	.105	.106	.106	.105	.105	.105	.105	.105	.105	.105	.105
.325	.081	.090	.096	.099	.102	.104	.106	.107	.108	.108	.109	.109	.109	.108	.108	.108	.108	.108	.108	.108
.330	.083	.092	.098	.101	.104	.106	.108	.109	.110	.111	.111	.111	.112	.110	.110	.110	.110	.110	.110	.110
.335	.084	.094	.100	.104	.107	.109	.110	.112	.113	.113	.114	.114	.114	.113	.113	.113	.113	.113	.113	.113
.340	.086	.096	.102	.106	.109	.111	.113	.114	.115	.115	.116	.117	.117	.116	.116	.116	.116	.116	.116	.116
.345	.088	.098	.104	.108	.111	.113	.115	.117	.118	.118	.119	.119	.120	.118	.118	.118	.118	.118	.118	.118
.350	.090	.100	.106	.110	.113	.116	.118	.119	.120	.121	.122	.122	.122	.122	.121	.121	.121	.121	.121	.121
.355	.092	.102	.108	.113	.116	.118	.120	.122	.123	.124	.124	.125	.125	.125	.124	.124	.124	.124	.124	.124
.360	.093	.104	.111	.115	.118	.121	.123	.124	.125	.126	.127	.127	.128	.128	.126	.126	.126	.126	.126	.126
.365	.095	.106	.113	.117	.121	.123	.125	.127	.128	.129	.130	.130	.130	.131	.129	.129	.129	.129	.129	.129
.370	.097	.108	.115	.120	.123	.126	.128	.129	.131	.132	.132	.133	.133	.133	.132	.132	.132	.132	.132	.132
.375	.099	.110	.117	.122	.125	.128	.130	.132	.133	.134	.135	.136	.136	.136	.136	.135	.135	.135	.135	.135
.380	.101	.112	.119	.124	.128	.131	.133	.134	.136	.137	.138	.138	.139	.139	.139	.138	.138	.138	.138	.138
.385	.103	.114	.122	.127	.130	.133	.135	.137	.138	.140	.140	.141	.142	.142	.142	.140	.140	.140	.140	.140
.390	.105	.117	.124	.129	.133	.136	.138	.140	.141	.142	.143	.144	.144	.145	.145	.143	.143	.143	.143	.143
.395	.106	.119	.126	.131	.135	.138	.140	.142	.144	.146	.146	.147	.147	.147	.148	.146	.146	.146	.146	.146
.400	.108	.121	.128	.134	.138	.141	.143	.145	.146	.148	.149	.149	.150	.150	.151	.151	.149	.149	.149	.149
.405	.110	.123	.131	.136	.140	.143	.146	.148	.149	.150	.151	.152	.153	.153	.154	.154	.152	.152	.152	.152
.410	.112	.125	.133	.138	.143	.146	.148	.150	.152	.153	.154	.155	.156	.156	.156	.157	.155	.155	.155	.155
.415	.114	.127	.135	.141	.145	.148	.151	.153	.155	.156	.157	.158	.159	.159	.159	.160	.158	.158	.158	.158
.420	.116	.129	.138	.143	.148	.151	.154	.156	.157	.159	.160	.161	.162	.162	.162	.163	.161	.161	.161	.161
.425	.118	.132	.140	.146	.150	.153	.156	.158	.160	.161	.163	.164	.164	.165	.165	.166	.166	.164	.164	.164
.430	.120	.134	.142	.148	.153	.156	.159	.161	.163	.164	.166	.167	.167	.168	.168	.169	.169	.167	.167	.167
.435	.122	.136	.145	.151	.155	.159	.162	.164	.166	.167	.169	.170	.170	.171	.171	.172	.172	.170	.170	.170
.440	.124	.138	.147	.153	.158	.161	.164	.167	.169	.170	.171	.172	.173	.174	.174	.175	.175	.173	.173	.173
.445	.126	.140	.149	.156	.160	.164	.167	.169	.171	.173	.174	.175	.176	.177	.177	.178	.178	.176	.176	.176
.450	.128	.143	.152	.158	.163	.167	.170	.172	.174	.176	.177	.178	.179	.180	.180	.181	.181	.181	.179	.179
.455	.130	.145	.154	.161	.165	.169	.172	.175	.177	.179	.180	.181	.182	.183	.184	.184	.184	.184	.182	.182
.460	.132	.147	.156	.163	.168	.172	.175	.178	.180	.181	.183	.184	.185	.186	.187	.187	.187	.187	.185	.185
.465	.134	.149	.159	.166	.171	.175	.178	.181	.183	.185	.186	.187	.188	.189	.190	.190	.190	.191	.189	.189
.470	.135	.152	.161	.168	.173	.177	.181	.183	.186	.188	.189	.190	.191	.192	.193	.193	.194	.194	.192	.192
.475	.138	.154	.164	.171	.176	.180	.183	.186	.189	.190	.192	.193	.194	.195	.195	.196	.197	.197	.197	.195
.480	.140	.156	.166	.173	.179	.183	.186	.189	.191	.193	.195	.196	.197	.198	.199	.200	.200	.200	.200	.198
.485	.142	.158	.169	.176	.181	.186	.189	.192	.194	.196	.198	.199	.201	.201	.202	.203	.203	.203	.204	.201
.490	.144	.161	.171	.178	.184	.188	.192	.195	.197	.199	.201	.202	.204	.205	.205	.206	.206	.207	.207	.205
.495	.146	.163	.173	.181	.187	.191	.195	.198	.200	.202	.204	.206	.207	.208	.209	.209	.210	.210	.210	.208
.500	.148	.165	.176	.184	.189	.194	.198	.201	.203	.205	.207	.209	.210	.211	.212	.212	.213	.213	.213	.213

Tabla 9. Continuación. Aforador de 30 x 270 cm.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.505	.150	.168	.178	.186	.192	.197	.200	.204	.206	.208	.210	.212	.213	.214	.215	.216	.216	.216	.217	.217
.510	.152	.170	.181	.189	.195	.199	.203	.206	.209	.211	.213	.215	.216	.217	.218	.219	.219	.220	.220	.220
.515	.154	.172	.183	.191	.197	.202	.206	.209	.212	.214	.216	.218	.219	.220	.221	.222	.223	.223	.223	.224
.520	.156	.175	.186	.194	.200	.205	.209	.212	.215	.217	.219	.221	.222	.224	.225	.225	.226	.226	.227	.227
.525	.158	.177	.189	.197	.203	.208	.212	.215	.218	.221	.223	.224	.226	.227	.228	.229	.229	.230	.230	.230
.530	.160	.179	.191	.199	.206	.211	.215	.218	.221	.224	.226	.227	.229	.230	.231	.232	.233	.233	.233	.234
.535	.163	.182	.194	.202	.208	.214	.218	.221	.224	.227	.229	.231	.232	.233	.234	.235	.236	.236	.237	.237
.540	.165	.184	.196	.205	.211	.216	.221	.224	.227	.230	.232	.234	.235	.237	.238	.239	.239	.240	.240	.241
.545	.167	.187	.199	.207	.214	.219	.224	.227	.230	.233	.235	.237	.239	.240	.241	.242	.243	.243	.244	.244
.550	.169	.189	.201	.210	.217	.222	.227	.230	.233	.236	.238	.240	.242	.243	.244	.245	.246	.247	.247	.247
.555	.171	.191	.204	.213	.220	.225	.230	.233	.237	.239	.241	.243	.245	.246	.248	.249	.249	.250	.251	.251
.560	.173	.194	.206	.215	.222	.228	.233	.236	.240	.242	.245	.247	.248	.250	.251	.252	.253	.253	.254	.254
.565	.175	.196	.209	.218	.225	.231	.236	.239	.243	.245	.248	.250	.252	.253	.254	.255	.256	.257	.257	.258
.570	.178	.199	.212	.221	.228	.234	.239	.243	.246	.249	.251	.253	.255	.256	.258	.259	.260	.260	.261	.261
.575	.180	.201	.214	.224	.231	.237	.242	.246	.249	.252	.254	.256	.258	.260	.261	.262	.263	.264	.264	.265
.580	.182	.204	.217	.226	.234	.240	.245	.249	.252	.255	.258	.260	.262	.263	.264	.266	.267	.267	.268	.268
.585	.184	.206	.220	.229	.237	.243	.248	.252	.255	.258	.261	.263	.265	.267	.268	.269	.270	.271	.271	.272
.590	.186	.209	.222	.232	.240	.246	.251	.255	.258	.261	.264	.266	.268	.270	.271	.273	.274	.274	.275	.276
.595	.189	.211	.225	.235	.242	.249	.254	.258	.262	.265	.267	.270	.272	.273	.275	.276	.277	.278	.279	.279
.600	.191	.214	.228	.238	.245	.252	.257	.261	.265	.268	.271	.273	.275	.277	.278	.279	.281	.281	.282	.283
.605	.193	.216	.230	.240	.248	.255	.260	.264	.268	.271	.274	.276	.278	.280	.282	.283	.284	.285	.286	.285
.610	.195	.219	.233	.243	.251	.258	.263	.267	.271	.274	.277	.280	.282	.284	.285	.286	.288	.289	.289	.290
.615	.197	.221	.236	.246	.254	.261	.266	.271	.274	.278	.281	.283	.285	.287	.289	.290	.291	.292	.293	.294
.620	.200	.224	.238	.249	.257	.264	.269	.274	.278	.281	.284	.286	.289	.290	.292	.293	.295	.296	.297	.297
.625	.202	.226	.241	.252	.260	.267	.272	.277	.281	.284	.287	.290	.292	.294	.296	.297	.298	.299	.300	.301
.630	.204	.229	.244	.255	.263	.270	.275	.280	.284	.288	.291	.293	.295	.297	.299	.301	.302	.303	.304	.304
.635	.206	.231	.246	.257	.266	.273	.278	.283	.287	.291	.294	.297	.299	.301	.303	.304	.305	.306	.307	.308
.640	.209	.234	.249	.260	.269	.276	.282	.286	.291	.294	.297	.300	.302	.304	.306	.308	.309	.310	.311	.312
.645	.211	.236	.252	.263	.272	.279	.285	.290	.294	.298	.301	.303	.306	.308	.310	.311	.313	.314	.315	.316
.650	.213	.239	.255	.266	.275	.282	.288	.293	.297	.301	.304	.307	.309	.311	.313	.315	.316	.317	.318	.319
.655	.216	.241	.257	.269	.278	.285	.291	.296	.300	.304	.307	.310	.313	.315	.317	.318	.320	.321	.322	.323
.660	.218	.244	.260	.272	.281	.288	.294	.299	.304	.308	.311	.314	.316	.318	.320	.322	.324	.325	.326	.327
.665	.220	.247	.263	.275	.284	.291	.297	.303	.307	.311	.314	.317	.320	.322	.324	.326	.327	.328	.330	.330
.670	.223	.249	.266	.278	.287	.294	.301	.306	.310	.314	.318	.321	.323	.326	.328	.329	.331	.332	.333	.334
.675	.225	.252	.269	.281	.290	.298	.304	.309	.314	.318	.321	.324	.327	.329	.331	.333	.335	.336	.337	.338
.680	.227	.254	.271	.284	.293	.301	.307	.313	.317	.321	.325	.328	.330	.333	.335	.337	.338	.340	.341	.342
.685	.230	.257	.274	.286	.296	.304	.310	.316	.321	.325	.328	.331	.334	.336	.338	.340	.342	.343	.345	.346
.690	.232	.260	.277	.289	.299	.307	.314	.319	.324	.328	.332	.335	.338	.340	.342	.344	.346	.347	.348	.349
.695	.234	.262	.280	.292	.302	.310	.317	.322	.327	.331	.335	.338	.341	.344	.346	.348	.349	.351	.352	.353
.700	.237	.265	.283	.295	.305	.313	.320	.326	.331	.335	.339	.342	.345	.347	.349	.351	.353	.355	.356	.357
.705	.239	.268	.285	.298	.308	.317	.323	.329	.334	.338	.342	.345	.348	.351	.353	.355	.357	.359	.360	.361
.710	.241	.270	.288	.301	.311	.320	.327	.332	.337	.342	.346	.349	.352	.355	.357	.359	.361	.362	.364	.365
.715	.244	.273	.291	.304	.315	.323	.330	.336	.341	.345	.349	.353	.356	.358	.360	.363	.364	.366	.367	.369
.720	.246	.276	.294	.307	.318	.326	.333	.339	.344	.349	.353	.356	.359	.362	.364	.366	.368	.370	.371	.372
.725	.249	.278	.297	.310	.321	.329	.336	.343	.348	.352	.356	.360	.363	.366	.368	.370	.372	.374	.375	.376
.730	.251	.281	.300	.313	.324	.333	.340	.346	.351	.355	.360	.363	.366	.369	.372	.374	.376	.377	.379	.380
.735	.253	.284	.303	.316	.327	.336	.343	.349	.355	.359	.363	.367	.370	.373	.375	.378	.380	.381	.383	.384
.740	.256	.286	.306	.319	.330	.339	.346	.353	.358	.363	.367	.371	.374	.377	.379	.381	.383	.385	.387	.388
.745	.258	.289	.308	.322	.333	.342	.350	.356	.362	.365	.371	.374	.377	.380	.383	.385	.387	.389	.391	.392
.750	.260	.292	.311	.326	.337	.346	.353	.360	.365	.370	.374	.378	.381	.384	.387	.389	.391	.393	.394	.396

Tabla 9. Continuación. Aforador de 30 x 270 cm.

h_a metros	$(h_a - h_b)$, metros									
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.505 *	.214	.214	.214	.214	.214	.214	.214	.214	.214	.214
.510 *	.218	.218	.218	.218	.218	.218	.218	.218	.218	.218
.515 *	.221	.221	.221	.221	.221	.221	.221	.221	.221	.221
.520 *	.227	.224	.224	.224	.224	.224	.224	.224	.224	.224
.525 *	.230	.228	.228	.228	.228	.228	.228	.228	.228	.228
.530 *	.234	.231	.231	.231	.231	.231	.231	.231	.231	.231
.535 *	.237	.235	.235	.235	.235	.235	.235	.235	.235	.235
.540 *	.241	.238	.238	.238	.238	.238	.238	.238	.238	.238
.545 *	.244	.244	.242	.242	.242	.242	.242	.242	.242	.242
.550 *	.248	.248	.245	.245	.245	.245	.245	.245	.245	.245
.555 *	.251	.251	.249	.249	.249	.249	.249	.249	.249	.249
.560 *	.255	.255	.252	.252	.252	.252	.252	.252	.252	.252
.565 *	.258	.258	.256	.256	.256	.256	.256	.256	.256	.256
.570 *	.262	.262	.262	.259	.259	.259	.259	.259	.259	.259
.575 *	.265	.265	.266	.263	.263	.263	.263	.263	.263	.263
.580 *	.269	.269	.269	.266	.266	.266	.266	.266	.266	.266
.585 *	.272	.273	.273	.270	.270	.270	.270	.270	.270	.270
.590 *	.276	.276	.276	.273	.273	.273	.273	.273	.273	.273
.595 *	.280	.280	.280	.280	.277	.277	.277	.277	.277	.277
.600 *	.283	.283	.284	.284	.281	.281	.281	.281	.281	.281
.605 *	.287	.287	.287	.287	.284	.284	.284	.284	.284	.284
.610 *	.290	.291	.291	.291	.288	.288	.288	.288	.288	.288
.615 *	.294	.294	.295	.295	.292	.292	.292	.292	.292	.292
.620 *	.298	.298	.298	.299	.299	.295	.295	.295	.295	.295
.625 *	.301	.302	.302	.302	.302	.299	.299	.299	.299	.299
.630 *	.305	.306	.306	.306	.306	.303	.303	.303	.303	.303
.635 *	.309	.309	.310	.310	.310	.307	.307	.307	.307	.307
.640 *	.313	.313	.313	.314	.314	.310	.310	.310	.310	.310
.645 *	.316	.317	.317	.317	.318	.318	.314	.314	.314	.314
.650 *	.320	.321	.321	.321	.321	.322	.318	.318	.318	.318
.655 *	.324	.324	.325	.325	.325	.325	.322	.322	.322	.322
.660 *	.327	.328	.329	.329	.329	.329	.326	.326	.326	.326
.665 *	.331	.332	.332	.333	.333	.333	.330	.330	.330	.330
.670 *	.335	.336	.336	.337	.337	.337	.337	.333	.333	.333
.675 *	.339	.339	.340	.340	.341	.341	.341	.337	.337	.337
.680 *	.343	.343	.344	.344	.345	.345	.345	.341	.341	.341
.685 *	.346	.347	.348	.348	.349	.349	.349	.345	.345	.345
.690 *	.350	.351	.352	.352	.353	.353	.353	.349	.349	.349
.695 *	.354	.355	.356	.356	.356	.357	.357	.357	.353	.353
.700 *	.358	.359	.359	.360	.360	.361	.361	.361	.357	.357
.705 *	.362	.363	.363	.364	.364	.365	.365	.365	.361	.361
.710 *	.366	.367	.367	.368	.368	.369	.369	.369	.365	.365
.715 *	.370	.370	.371	.372	.372	.373	.373	.373	.369	.369
.720 *	.373	.374	.375	.376	.376	.377	.377	.377	.377	.373
.725 *	.377	.378	.379	.380	.380	.381	.381	.381	.381	.377
.730 *	.381	.382	.383	.384	.384	.385	.385	.385	.385	.381
.735 *	.385	.386	.387	.388	.388	.389	.389	.389	.390	.385
.740 *	.389	.390	.391	.392	.392	.393	.393	.394	.394	.389
.745 *	.393	.394	.395	.396	.396	.397	.397	.398	.398	.398
.750 *	.397	.398	.399	.400	.401	.401	.401	.402	.402	.402

Tabla 10. Descarga Sumergida en m^3/seg., para el aforador "sin cuello" de 60 x 270 centímetros.

h_a metros	(h_a x h_b), metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005 *	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.015 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.020 *	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.025 *	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004	.004
.030 *	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.035 *	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.040 *	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008
.045 *	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010
.050 *	.011	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.055 *	.013	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.060 *	.015	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016
.065 *	.017	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018	.018
.070 *	.019	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
.075 *	.021	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022	.022
.080 *	.023	.024	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025
.085 *	.025	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027	.027
.090 *	.027	.029	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030
.095 *	.029	.031	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032	.032
.100 *	.031	.034	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035	.035
.105 *	.033	.036	.037	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038
.110 *	.034	.039	.040	.041	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040
.115 *	.034	.041	.043	.044	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043	.043
.120 *	.040	.044	.046	.047	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046
.125 *	.043	.047	.049	.050	.050	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049	.049
.130 *	.045	.050	.052	.053	.053	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052
.135 *	.048	.052	.055	.056	.056	.056	.056	.056	.056	.056	.056	.056	.056	.056	.056	.056	.056	.056	.056	.056
.140 *	.050	.055	.058	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059
.145 *	.053	.058	.061	.062	.063	.062	.062	.062	.062	.062	.062	.062	.062	.062	.062	.062	.062	.062	.062	.062
.150 *	.055	.061	.064	.065	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066	.066
.155 *	.058	.064	.067	.068	.069	.070	.069	.069	.069	.069	.069	.069	.069	.069	.069	.069	.069	.069	.069	.069
.160 *	.061	.067	.070	.072	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073
.165 *	.063	.070	.073	.075	.076	.077	.076	.076	.076	.076	.076	.076	.076	.076	.076	.076	.076	.076	.076	.076
.170 *	.066	.073	.076	.078	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080
.175 *	.069	.076	.080	.082	.083	.084	.084	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083
.180 *	.072	.079	.083	.085	.087	.088	.088	.087	.087	.088	.087	.087	.087	.087	.087	.087	.087	.087	.087	.087
.185 *	.074	.082	.086	.089	.090	.091	.092	.091	.091	.092	.091	.091	.091	.091	.091	.091	.091	.091	.091	.091
.190 *	.077	.085	.090	.092	.094	.095	.096	.095	.095	.095	.095	.095	.095	.095	.095	.095	.095	.095	.095	.095
.195 *	.080	.089	.093	.096	.098	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099
.200 *	.083	.092	.097	.100	.102	.103	.103	.104	.103	.103	.103	.103	.103	.103	.103	.103	.103	.103	.103	.103
.205 *	.086	.095	.100	.103	.105	.107	.107	.108	.107	.108	.107	.107	.107	.107	.107	.107	.107	.107	.107	.107
.210 *	.089	.099	.104	.107	.109	.111	.111	.112	.111	.111	.111	.111	.111	.111	.111	.111	.111	.111	.111	.111
.215 *	.092	.102	.107	.111	.113	.115	.116	.116	.115	.115	.115	.115	.115	.115	.115	.115	.115	.115	.115	.115
.220 *	.095	.105	.111	.115	.117	.119	.120	.120	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119
.225 *	.098	.109	.115	.118	.121	.123	.124	.124	.125	.124	.123	.123	.123	.123	.123	.123	.123	.123	.123	.123
.230 *	.101	.112	.118	.122	.125	.127	.128	.129	.129	.128	.128	.128	.128	.128	.128	.128	.128	.128	.128	.128
.235 *	.104	.116	.122	.126	.129	.131	.132	.133	.133	.133	.132	.132	.132	.132	.132	.132	.132	.132	.132	.132
.240 *	.107	.119	.126	.130	.133	.135	.136	.137	.138	.138	.137	.137	.137	.137	.137	.137	.137	.137	.137	.137
.245 *	.111	.123	.130	.134	.137	.139	.141	.142	.142	.142	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141
.250 *	.114	.126	.133	.138	.141	.144	.145	.146	.147	.147	.146	.146	.146	.146	.146	.146	.146	.146	.146	.146

Tabla 10. Continuación. Aforador de 60 x 270 cm.

h_a metros	$(h_a \times h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.255	.117	.130	.137	.142	.145	.148	.149	.151	.151	.151	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150
.260	.120	.133	.141	.146	.150	.152	.154	.155	.156	.156	.155	.155	.155	.155	.155	.155	.155	.155	.155	.155
.265	.123	.137	.145	.150	.154	.156	.158	.160	.160	.161	.159	.159	.159	.159	.159	.159	.159	.159	.159	.159
.270	.127	.141	.149	.154	.158	.161	.163	.164	.165	.165	.164	.164	.164	.164	.164	.164	.164	.164	.164	.164
.275	.130	.145	.153	.158	.162	.165	.167	.169	.170	.170	.170	.169	.169	.169	.169	.169	.169	.169	.169	.169
.280	.133	.148	.157	.163	.167	.170	.172	.173	.174	.175	.175	.174	.174	.174	.174	.174	.174	.174	.174	.174
.285	.137	.152	.161	.167	.171	.174	.176	.178	.179	.180	.180	.179	.179	.179	.179	.179	.179	.179	.179	.179
.290	.140	.156	.165	.171	.175	.179	.181	.183	.184	.185	.185	.183	.183	.183	.183	.183	.183	.183	.183	.183
.295	.143	.160	.169	.175	.180	.183	.186	.187	.189	.190	.190	.188	.188	.188	.188	.188	.188	.188	.188	.188
.300	.147	.163	.173	.180	.184	.188	.190	.192	.194	.194	.195	.195	.193	.193	.193	.193	.193	.193	.193	.193
.305	.150	.167	.177	.184	.189	.192	.195	.197	.198	.199	.200	.200	.199	.199	.199	.199	.199	.199	.199	.199
.310	.154	.171	.181	.188	.193	.197	.200	.202	.203	.204	.205	.205	.204	.204	.204	.204	.204	.204	.204	.204
.315	.157	.175	.186	.193	.198	.202	.205	.207	.208	.209	.210	.211	.209	.209	.209	.209	.209	.209	.209	.209
.320	.161	.179	.190	.197	.202	.206	.209	.212	.213	.215	.215	.216	.214	.214	.214	.214	.214	.214	.214	.214
.325	.164	.183	.194	.202	.207	.211	.214	.217	.218	.220	.220	.221	.221	.219	.219	.219	.219	.219	.219	.219
.330	.168	.187	.198	.206	.212	.216	.219	.222	.223	.225	.226	.226	.227	.224	.224	.224	.224	.224	.224	.224
.335	.171	.191	.203	.210	.216	.221	.224	.227	.228	.230	.231	.232	.232	.230	.230	.230	.230	.230	.230	.230
.340	.175	.195	.207	.215	.221	.225	.229	.232	.234	.235	.236	.237	.237	.235	.235	.235	.235	.235	.235	.235
.345	.179	.199	.211	.220	.226	.230	.234	.237	.239	.240	.241	.242	.243	.241	.241	.241	.241	.241	.241	.241
.350	.182	.203	.216	.224	.230	.235	.239	.242	.244	.246	.247	.248	.248	.248	.246	.246	.246	.246	.246	.246
.355	.186	.207	.220	.229	.235	.240	.244	.247	.249	.251	.252	.253	.254	.254	.252	.252	.252	.252	.252	.252
.360	.190	.211	.224	.233	.240	.245	.249	.252	.254	.256	.258	.259	.259	.259	.257	.257	.257	.257	.257	.257
.365	.193	.216	.229	.238	.245	.250	.254	.257	.260	.262	.263	.264	.265	.265	.263	.263	.263	.263	.263	.263
.370	.197	.220	.233	.243	.250	.255	.259	.262	.265	.267	.268	.270	.270	.271	.268	.268	.268	.268	.268	.268
.375	.201	.224	.238	.247	.254	.260	.264	.268	.270	.272	.274	.275	.276	.276	.277	.274	.274	.274	.274	.274
.380	.205	.228	.242	.252	.259	.265	.269	.273	.276	.278	.279	.281	.282	.282	.282	.280	.280	.280	.280	.280
.385	.208	.232	.247	.257	.264	.270	.275	.278	.281	.283	.285	.286	.287	.288	.288	.286	.286	.286	.286	.286
.390	.212	.237	.251	.262	.269	.275	.280	.283	.286	.289	.291	.292	.293	.294	.294	.291	.291	.291	.291	.291
.395	.216	.241	.256	.266	.274	.280	.285	.289	.292	.294	.296	.298	.299	.299	.300	.297	.297	.297	.297	.297
.400	.220	.245	.261	.271	.279	.285	.290	.294	.297	.300	.302	.303	.304	.305	.306	.303	.303	.303	.303	.303
.405	.224	.250	.265	.276	.284	.291	.296	.300	.303	.305	.307	.309	.310	.311	.312	.312	.309	.309	.309	.309
.410	.227	.254	.270	.281	.289	.296	.301	.305	.308	.311	.313	.315	.316	.317	.318	.318	.315	.315	.315	.315
.415	.231	.258	.274	.286	.294	.301	.306	.310	.314	.317	.319	.321	.322	.323	.324	.324	.321	.321	.321	.321
.420	.235	.263	.279	.291	.299	.306	.312	.316	.320	.322	.325	.326	.328	.329	.330	.330	.327	.327	.327	.327
.425	.239	.267	.284	.296	.305	.311	.317	.321	.325	.328	.330	.332	.334	.335	.336	.336	.336	.333	.333	.333
.430	.243	.272	.289	.301	.310	.317	.322	.327	.331	.334	.336	.338	.340	.341	.342	.342	.342	.339	.339	.339
.435	.247	.276	.293	.306	.315	.322	.328	.333	.336	.340	.342	.344	.346	.347	.348	.348	.349	.346	.346	.346
.440	.251	.280	.298	.311	.320	.327	.333	.338	.342	.345	.348	.350	.352	.353	.354	.355	.355	.352	.352	.352
.445	.255	.285	.303	.316	.325	.333	.339	.344	.348	.351	.354	.356	.358	.359	.360	.361	.361	.358	.358	.358
.450	.259	.289	.308	.321	.331	.338	.344	.349	.354	.357	.360	.362	.364	.365	.366	.367	.367	.368	.364	.364
.455	.263	.294	.313	.326	.336	.344	.350	.355	.359	.363	.366	.368	.370	.371	.372	.373	.374	.374	.371	.371
.460	.267	.299	.317	.331	.341	.349	.356	.361	.365	.369	.372	.374	.376	.378	.379	.380	.380	.380	.377	.377
.465	.271	.303	.322	.336	.346	.355	.361	.367	.371	.375	.378	.380	.382	.384	.385	.386	.386	.387	.383	.383
.470	.275	.308	.327	.341	.352	.360	.367	.372	.377	.381	.384	.386	.388	.390	.391	.392	.393	.393	.390	.390
.475	.279	.312	.332	.346	.357	.366	.372	.378	.383	.387	.390	.392	.395	.396	.398	.399	.399	.400	.400	.395
.480	.284	.317	.337	.352	.362	.371	.378	.384	.389	.393	.396	.399	.401	.403	.404	.405	.406	.406	.407	.403
.485	.288	.322	.342	.357	.368	.377	.384	.390	.395	.399	.402	.405	.407	.409	.410	.412	.412	.413	.413	.409
.490	.292	.326	.347	.362	.373	.382	.390	.396	.400	.405	.408	.411	.413	.415	.417	.418	.419	.419	.420	.416
.495	.296	.331	.352	.367	.379	.388	.395	.401	.406	.411	.414	.417	.420	.422	.423	.424	.425	.426	.426	.423
.500	.300	.336	.357	.372	.384	.393	.401	.407	.412	.417	.420	.423	.426	.428	.430	.431	.432	.433	.433	.433

Tabla 10. Continuación. Aforador de 60 x 270 cm.

h_a	$(h_a \times h_b)$, metros																			
metros	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.505	.304	.340	.362	.378	.390	.399	.407	.413	.418	.423	.427	.430	.432	.434	.436	.438	.439	.439	.440	.440
.510	.309	.345	.367	.383	.395	.405	.413	.419	.425	.429	.433	.436	.439	.441	.443	.444	.445	.446	.447	.447
.515	.313	.350	.372	.388	.401	.411	.418	.425	.431	.435	.439	.442	.445	.447	.449	.451	.452	.453	.453	.454
.520	.317	.355	.377	.394	.406	.416	.424	.431	.437	.441	.445	.449	.452	.454	.456	.457	.459	.459	.460	.461
.525	.321	.359	.383	.399	.412	.422	.430	.437	.443	.448	.452	.455	.458	.460	.462	.464	.465	.466	.467	.467
.530	.326	.364	.388	.405	.417	.428	.436	.443	.449	.454	.458	.462	.465	.467	.469	.471	.472	.473	.474	.474
.535	.330	.369	.393	.410	.423	.434	.442	.449	.455	.460	.464	.468	.471	.474	.476	.477	.479	.480	.481	.481
.540	.334	.374	.398	.415	.429	.439	.448	.455	.461	.466	.471	.475	.478	.480	.482	.484	.486	.487	.488	.488
.545	.339	.379	.403	.421	.434	.445	.454	.461	.468	.473	.477	.481	.484	.487	.489	.491	.493	.494	.495	.495
.550	.343	.384	.409	.426	.440	.451	.460	.467	.474	.479	.484	.488	.491	.494	.496	.498	.499	.501	.502	.502
.555	.347	.389	.414	.432	.446	.457	.466	.474	.480	.485	.490	.494	.497	.500	.503	.505	.506	.508	.509	.509
.560	.352	.393	.419	.437	.451	.463	.472	.480	.486	.492	.497	.501	.504	.507	.509	.511	.513	.515	.516	.516
.565	.356	.398	.424	.443	.457	.469	.478	.486	.493	.498	.503	.507	.511	.514	.516	.518	.520	.522	.523	.523
.570	.360	.403	.430	.448	.463	.475	.484	.492	.499	.505	.510	.514	.517	.520	.523	.525	.527	.529	.530	.531
.575	.365	.408	.435	.454	.469	.481	.490	.498	.505	.511	.516	.520	.524	.527	.530	.532	.534	.535	.537	.538
.580	.369	.413	.440	.460	.475	.487	.496	.505	.512	.518	.523	.527	.531	.534	.537	.539	.541	.543	.544	.545
.585	.374	.418	.446	.465	.480	.493	.503	.511	.518	.524	.529	.534	.538	.541	.544	.546	.548	.550	.551	.553
.590	.378	.423	.451	.471	.486	.499	.509	.517	.525	.531	.536	.541	.544	.548	.551	.553	.555	.557	.559	.559
.595	.383	.428	.456	.477	.492	.505	.515	.524	.531	.537	.543	.547	.551	.555	.558	.560	.562	.564	.565	.567
.600	.387	.433	.462	.482	.498	.511	.521	.530	.537	.544	.549	.554	.558	.562	.565	.567	.569	.571	.573	.574
.605	.392	.439	.467	.488	.504	.517	.527	.536	.544	.550	.556	.561	.565	.569	.572	.574	.577	.578	.580	.581
.610	.396	.444	.473	.494	.510	.523	.534	.543	.550	.557	.563	.568	.572	.576	.579	.581	.584	.586	.587	.588
.615	.401	.449	.478	.499	.516	.529	.540	.549	.557	.564	.569	.574	.579	.583	.586	.588	.591	.593	.594	.595
.620	.405	.454	.484	.505	.522	.535	.546	.556	.563	.570	.576	.581	.586	.590	.593	.596	.598	.600	.602	.603
.625	.410	.459	.489	.511	.528	.541	.553	.562	.570	.577	.583	.588	.593	.597	.600	.603	.605	.607	.609	.611
.630	.415	.464	.495	.517	.534	.547	.559	.568	.577	.584	.590	.595	.600	.604	.607	.610	.613	.615	.617	.618
.635	.419	.469	.500	.522	.540	.554	.565	.575	.583	.590	.597	.602	.607	.611	.614	.617	.620	.622	.624	.625
.640	.424	.474	.506	.528	.546	.560	.572	.581	.590	.597	.603	.609	.614	.618	.621	.624	.627	.629	.631	.633
.645	.428	.480	.511	.534	.552	.566	.578	.588	.597	.604	.610	.616	.621	.625	.629	.632	.634	.637	.639	.640
.650	.433	.485	.517	.540	.558	.572	.584	.595	.603	.611	.617	.623	.628	.632	.636	.639	.642	.644	.646	.648
.655	.438	.490	.522	.546	.564	.579	.591	.601	.610	.618	.624	.630	.635	.639	.643	.646	.649	.652	.654	.655
.660	.442	.495	.528	.552	.570	.585	.597	.608	.617	.624	.631	.637	.642	.646	.650	.654	.657	.659	.661	.663
.665	.447	.501	.534	.558	.576	.591	.604	.614	.623	.631	.638	.644	.649	.654	.658	.661	.664	.667	.669	.671
.670	.452	.506	.539	.564	.582	.598	.610	.621	.630	.638	.645	.651	.656	.661	.665	.668	.671	.674	.676	.678
.675	.456	.511	.545	.570	.589	.604	.617	.628	.637	.645	.652	.658	.663	.668	.672	.676	.679	.682	.684	.686
.680	.461	.517	.551	.575	.595	.610	.623	.634	.644	.652	.659	.665	.671	.675	.680	.683	.686	.689	.692	.694
.685	.466	.522	.556	.581	.601	.617	.630	.641	.651	.659	.666	.672	.678	.683	.687	.691	.694	.697	.699	.701
.690	.471	.527	.562	.587	.607	.623	.636	.648	.657	.666	.673	.679	.685	.690	.694	.698	.702	.704	.707	.709
.695	.475	.533	.568	.593	.613	.630	.643	.654	.664	.673	.680	.687	.692	.697	.702	.706	[illegible]	.712	.715	.717
.700	.480	.538	.574	.599	.620	.636	.650	.661	.671	.680	.687	.694	.700	.705	.709	.713	.717	.720	.722	.725
.705	.485	.543	.579	.606	.626	.642	.656	.668	.678	.687	.694	.701	.707	.712	.717	.721	.724	.727	.730	.732
.710	.490	.549	.585	.612	.632	.649	.663	.675	.685	.694	.702	.708	.714	.720	.724	.728	.732	.735	.738	.740
.715	.495	.554	.591	.618	.639	.655	.670	.682	.692	.701	.709	.716	.722	.727	.732	.736	.740	.743	.746	.748
.720	.499	.560	.597	.624	.645	.662	.676	.688	.699	.708	.716	.723	.729	.734	.739	.743	.747	.751	.753	.756
.725	.504	.565	.603	.630	.651	.669	.683	.695	.706	.715	.723	.730	.736	.742	.747	.751	.755	.758	.761	.764
.730	.509	.570	.608	.636	.658	.675	.690	.702	.713	.722	.730	.737	.744	.749	.754	.759	.763	.765	.769	.772
.735	.514	.576	.614	.642	.664	.682	.696	.709	.720	.729	.738	.745	.751	.757	.762	.766	.770	.774	.777	.780
.740	.519	.581	.620	.648	.670	.688	.703	.716	.727	.736	.745	.752	.759	.764	.770	.774	.778	.782	.785	.788
.745	.524	.587	.626	.655	.677	.695	.710	.723	.734	.744	.752	.760	.766	.772	.777	.782	.786	.790	.793	.796
.750	.529	.592	.632	.661	.683	.701	.717	.730	.741	.751	.759	.767	.774	.780	.785	.790	.794	.797	.801	.804

Tabla 10. Continuación. Aforador de 60 x 270 cm.

h_a	$(h_a \times h_b)$, metros									
metros	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.505 *	.436	.436	.436	.436	.436	.436	.436	.436	.436	.436
.510 *	.443	.443	.443	.443	.443	.443	.443	.443	.443	.443
.515 *	.450	.450	.450	.450	.450	.450	.450	.450	.450	.450
.520 *	.461	.457	.457	.457	.457	.457	.457	.457	.457	.457
.525 *	.468	.463	.463	.463	.463	.463	.463	.463	.463	.463
.530 *	.475	.470	.470	.470	.470	.470	.470	.470	.470	.470
.535 *	.482	.477	.477	.477	.477	.477	.477	.477	.477	.477
.540 *	.489	.484	.484	.484	.484	.484	.484	.484	.484	.484
.545 *	.496	.496	.491	.491	.491	.491	.491	.491	.491	.491
.550 *	.503	.503	.498	.498	.498	.498	.498	.498	.498	.498
.555 *	.510	.510	.505	.505	.505	.505	.505	.505	.505	.505
.560 *	.517	.517	.513	.513	.513	.513	.513	.513	.513	.513
.565 *	.524	.524	.520	.520	.520	.520	.520	.520	.520	.520
.570 *	.531	.532	.532	.527	.527	.527	.527	.527	.527	.527
.575 *	.538	.539	.539	.534	.534	.534	.534	.534	.534	.534
.580 *	.546	.546	.546	.541	.541	.541	.541	.541	.541	.541
.585 *	.553	.553	.554	.549	.549	.549	.549	.549	.549	.549
.590 *	.560	.561	.561	.556	.556	.556	.556	.556	.556	.556
.595 *	.567	.568	.568	.569	.563	.563	.563	.563	.563	.563
.600 *	.575	.575	.576	.576	.571	.571	.571	.571	.571	.571
.605 *	.582	.583	.583	.583	.578	.578	.578	.578	.578	.578
.610 *	.589	.590	.591	.591	.586	.586	.586	.586	.586	.586
.615 *	.597	.598	.598	.599	.593	.593	.593	.593	.593	.593
.620 *	.604	.605	.606	.606	.606	.601	.601	.601	.601	.601
.625 *	.612	.613	.613	.614	.614	.608	.608	.608	.608	.608
.630 *	.619	.620	.621	.621	.622	.616	.616	.616	.616	.616
.635 *	.627	.628	.628	.629	.629	.624	.624	.624	.624	.624
.640 *	.634	.635	.636	.637	.637	.631	.631	.631	.631	.631
.645 *	.642	.643	.644	.644	.645	.645	.639	.639	.639	.639
.650 *	.649	.651	.651	.652	.652	.653	.647	.647	.647	.647
.655 *	.657	.658	.659	.660	.660	.660	.655	.655	.655	.655
.660 *	.665	.666	.667	.668	.668	.668	.662	.662	.662	.662
.665 *	.672	.674	.675	.675	.676	.676	.670	.670	.670	.670
.670 *	.680	.681	.682	.683	.684	.684	.684	.678	.678	.678
.675 *	.688	.689	.690	.691	.692	.692	.692	.686	.686	.686
.680 *	.695	.697	.698	.699	.700	.700	.700	.694	.694	.694
.685 *	.703	.705	.706	.707	.708	.708	.708	.702	.702	.702
.690 *	.711	.712	.714	.715	.715	.716	.716	.710	.710	.710
.695 *	.719	.720	.722	.723	.723	.724	.724	.725	.718	.718
.700 *	.727	.728	.730	.731	.731	.732	.733	.733	.726	.726
.705 *	.734	.736	.738	.739	.740	.740	.741	.741	.734	.734
.710 *	.742	.744	.745	.747	.748	.748	.749	.749	.742	.742
.715 *	.750	.752	.753	.755	.756	.756	.757	.757	.750	.750
.720 *	.758	.760	.761	.763	.764	.765	.765	.766	.766	.759
.725 *	.766	.768	.770	.771	.772	.773	.773	.774	.774	.767
.730 *	.774	.776	.778	.779	.780	.781	.782	.782	.782	.775
.735 *	.782	.784	.786	.787	.788	.789	.790	.790	.791	.784
.740 *	.790	.792	.794	.795	.796	.797	.798	.799	.799	.792
.745 *	.798	.800	.802	.803	.805	.806	.806	.807	.807	.808
.750 *	.806	.808	.810	.812	.813	.814	.815	.815	.816	.816

Tabla 11. Descarga Sumergida en m^3/seg., para el aforador "sin cuello" de 100 x 270 centímetros.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.005 *	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
.010 *	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002	.002
.015 *	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003
.020 *	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.025 *	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
.030 *	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.035 *	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011	.011
.040 *	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014	.014
.045 *	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017	.017
.050 *	.019	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
.055 *	.022	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023	.023
.060 *	.025	.027	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026	.026
.065 *	.028	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030	.030
.070 *	.032	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034	.034
.075 *	.035	.037	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038	.038
.080 *	.038	.041	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042	.042
.085 *	.042	.045	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046	.046
.090 *	.045	.049	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050
.095 *	.049	.053	.055	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054	.054
.100 *	.053	.057	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059	.059
.105 *	.056	.061	.063	.064	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063	.063
.110 *	.060	.066	.068	.069	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068	.068
.115 *	.064	.070	.073	.074	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073	.073
.120 *	.068	.075	.077	.079	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078	.078
.125 *	.072	.079	.082	.084	.084	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083	.083
.130 *	.076	.084	.087	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089	.089
.135 *	.081	.088	.092	.094	.095	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094
.140 *	.085	.093	.097	.099	.100	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099
.145 *	.089	.098	.102	.105	.106	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105	.105
.150 *	.094	.103	.108	.110	.111	.112	.111	.111	.111	.111	.111	.111	.111	.111	.111	.111	.111	.111	.111	.111
.155 *	.099	.108	.113	.116	.117	.118	.117	.117	.117	.117	.117	.117	.117	.117	.117	.117	.117	.117	.117	.117
.160 *	.103	.113	.118	.121	.123	.124	.122	.122	.122	.122	.122	.122	.122	.122	.122	.122	.122	.122	.122	.122
.165 *	.107	.118	.124	.127	.129	.130	.129	.129	.129	.129	.129	.129	.129	.129	.129	.129	.129	.129	.129	.129
.170 *	.112	.123	.129	.133	.135	.136	.135	.135	.135	.135	.135	.135	.135	.135	.135	.135	.135	.135	.135	.135
.175 *	.116	.128	.135	.139	.141	.142	.142	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141
.180 *	.121	.134	.140	.144	.147	.148	.149	.147	.147	.147	.147	.147	.147	.147	.147	.147	.147	.147	.147	.147
.185 *	.126	.139	.146	.150	.153	.154	.155	.154	.154	.154	.154	.154	.154	.154	.154	.154	.154	.154	.154	.154
.190 *	.131	.144	.152	.156	.159	.161	.162	.160	.160	.160	.160	.160	.160	.160	.160	.160	.160	.160	.160	.160
.195 *	.136	.150	.158	.162	.165	.167	.168	.167	.167	.167	.167	.167	.167	.167	.167	.167	.167	.167	.167	.167
.200 *	.141	.155	.164	.169	.172	.174	.175	.175	.174	.174	.174	.174	.174	.174	.174	.174	.174	.174	.174	.174
.205 *	.146	.161	.170	.175	.178	.180	.182	.182	.180	.180	.180	.180	.180	.180	.180	.180	.180	.180	.180	.180
.210 *	.151	.167	.176	.181	.185	.187	.188	.189	.187	.187	.187	.187	.187	.187	.187	.187	.187	.187	.187	.187
.215 *	.156	.172	.182	.187	.191	.194	.195	.196	.194	.194	.194	.194	.194	.194	.194	.194	.194	.194	.194	.194
.220 *	.161	.178	.188	.194	.198	.201	.202	.203	.201	.201	.201	.201	.201	.201	.201	.201	.201	.201	.201	.201
.225 *	.166	.184	.194	.200	.205	.207	.209	.210	.211	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209	.209
.230 *	.171	.190	.200	.207	.211	.214	.216	.218	.218	.216	.216	.216	.216	.216	.216	.216	.216	.216	.216	.216
.235 *	.176	.196	.206	.213	.218	.221	.224	.225	.225	.223	.223	.223	.223	.223	.223	.223	.223	.223	.223	.223
.240 *	.182	.201	.213	.220	.225	.228	.231	.232	.233	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231	.231
.245 *	.187	.207	.219	.227	.232	.236	.238	.240	.240	.238	.238	.238	.238	.238	.238	.238	.238	.238	.238	.238
.250 *	.192	.213	.226	.233	.239	.243	.245	.247	.248	.248	.246	.246	.246	.246	.246	.246	.246	.246	.246	.246

Tabla 11. Continuación. Aforador de 100 x 270 cm.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.255 *	.198	.220	.232	.240	.246	.250	.253	.255	.256	.256	.254	.254	.254	.254	.254	.254	.254	.254	.254	.254
.260 *	.203	.226	.239	.247	.253	.257	.260	.262	.263	.264	.261	.261	.261	.261	.261	.261	.261	.261	.261	.261
.265 *	.209	.232	.245	.254	.260	.265	.268	.270	.271	.272	.269	.269	.269	.269	.269	.269	.269	.269	.269	.269
.270 *	.214	.238	.252	.261	.267	.272	.275	.278	.279	.280	.277	.277	.277	.277	.277	.277	.277	.277	.277	.277
.275 *	.220	.244	.258	.268	.275	.279	.283	.285	.287	.288	.288	.285	.285	.285	.285	.285	.285	.285	.285	.285
.280 *	.226	.251	.265	.275	.282	.287	.291	.293	.295	.296	.296	.293	.293	.293	.293	.293	.293	.293	.293	.293
.285 *	.231	.257	.272	.282	.289	.294	.298	.301	.303	.304	.305	.302	.302	.302	.302	.302	.302	.302	.302	.302
.290 *	.237	.263	.279	.289	.297	.302	.306	.309	.311	.312	.313	.310	.310	.310	.310	.310	.310	.310	.310	.310
.295 *	.243	.270	.286	.296	.304	.310	.314	.317	.319	.321	.321	.318	.318	.318	.318	.318	.318	.318	.318	.318
.300 *	.248	.276	.293	.304	.312	.318	.322	.325	.327	.329	.330	.330	.327	.327	.327	.327	.327	.327	.327	.327
.305 *	.254	.283	.300	.311	.319	.325	.330	.333	.336	.337	.338	.339	.335	.335	.335	.335	.335	.335	.335	.335
.310 *	.260	.289	.307	.318	.327	.333	.338	.341	.344	.346	.347	.347	.344	.344	.344	.344	.344	.344	.344	.344
.315 *	.266	.296	.314	.326	.335	.341	.346	.350	.352	.354	.355	.356	.353	.353	.353	.353	.353	.353	.353	.353
.320 *	.272	.303	.321	.333	.342	.349	.354	.358	.361	.363	.364	.365	.361	.361	.361	.361	.361	.361	.361	.361
.325 *	.278	.309	.328	.341	.350	.357	.362	.366	.369	.371	.373	.374	.374	.370	.370	.370	.370	.370	.370	.370
.330 *	.284	.316	.335	.348	.358	.365	.370	.375	.378	.380	.382	.383	.383	.379	.379	.379	.379	.379	.379	.379
.335 *	.290	.323	.343	.356	.366	.373	.379	.383	.386	.389	.390	.392	.392	.388	.388	.388	.388	.388	.388	.388
.340 *	.296	.330	.350	.364	.374	.381	.387	.392	.395	.398	.399	.401	.401	.397	.397	.397	.397	.397	.397	.397
.345 *	.302	.337	.357	.371	.382	.389	.395	.400	.404	.406	.408	.410	.410	.406	.406	.406	.406	.406	.406	.406
.350 *	.308	.344	.365	.379	.390	.398	.404	.409	.412	.415	.417	.419	.420	.420	.416	.416	.416	.416	.416	.416
.355 *	.314	.351	.372	.387	.398	.406	.412	.417	.421	.424	.426	.428	.429	.429	.425	.425	.425	.425	.425	.425
.360 *	.321	.358	.379	.395	.406	.414	.421	.426	.430	.433	.436	.437	.438	.439	.434	.434	.434	.434	.434	.434
.365 *	.327	.365	.387	.402	.414	.423	.430	.435	.439	.442	.445	.446	.448	.448	.444	.444	.444	.444	.444	.444
.370 *	.333	.372	.394	.410	.422	.431	.438	.444	.448	.451	.454	.456	.457	.458	.453	.453	.453	.453	.453	.453
.375 *	.340	.379	.402	.418	.430	.440	.447	.453	.457	.461	.463	.465	.467	.467	.468	.463	.463	.463	.463	.463
.380 *	.346	.386	.410	.426	.439	.448	.456	.461	.466	.470	.473	.475	.476	.477	.477	.473	.473	.473	.473	.473
.385 *	.352	.393	.417	.434	.447	.457	.464	.470	.475	.479	.482	.484	.486	.487	.487	.482	.482	.482	.482	.482
.390 *	.359	.400	.425	.442	.455	.465	.473	.479	.484	.488	.491	.494	.495	.496	.497	.492	.492	.492	.492	.492
.395 *	.365	.407	.433	.450	.464	.474	.482	.488	.494	.498	.501	.503	.505	.506	.507	.502	.502	.502	.502	.502
.400 *	.372	.415	.441	.459	.472	.483	.491	.498	.503	.507	.510	.513	.515	.516	.517	.517	.512	.512	.512	.512
.405 *	.378	.422	.448	.467	.481	.491	.500	.507	.512	.516	.520	.523	.525	.526	.527	.527	.522	.522	.522	.522
.410 *	.385	.429	.456	.475	.489	.500	.509	.516	.521	.526	.530	.532	.534	.536	.537	.537	.532	.532	.532	.532
.415 *	.391	.437	.464	.483	.498	.509	.518	.525	.531	.536	.539	.542	.544	.546	.547	.548	.542	.542	.542	.542
.420 *	.398	.444	.472	.492	.506	.518	.527	.534	.540	.545	.549	.552	.554	.556	.557	.558	.552	.552	.552	.552
.425 *	.405	.452	.480	.500	.515	.527	.536	.544	.550	.555	.559	.562	.564	.566	.567	.568	.569	.563	.563	.562
.430 *	.411	.459	.488	.508	.524	.536	.545	.553	.559	.564	.569	.572	.574	.576	.578	.579	.579	.573	.573	.573
.435 *	.418	.467	.496	.517	.532	.545	.555	.562	.569	.574	.578	.582	.585	.587	.588	.589	.590	.584	.584	.584
.440 *	.425	.474	.504	.525	.541	.554	.564	.572	.579	.584	.588	.592	.595	.597	.598	.599	.600	.594	.594	.594
.445 *	.431	.482	.512	.534	.550	.563	.573	.581	.588	.594	.598	.602	.605	.607	.609	.610	.611	.605	.605	.605
.450 *	.438	.489	.520	.542	.559	.572	.582	.591	.598	.604	.608	.612	.615	.618	.619	.621	.621	.622	.615	.615
.455 *	.445	.497	.529	.551	.568	.581	.592	.601	.608	.614	.618	.622	.625	.628	.630	.631	.632	.632	.626	.626
.460 *	.452	.505	.537	.560	.577	.590	.601	.610	.618	.624	.629	.633	.636	.638	.640	.642	.643	.643	.637	.637
.465 *	.459	.513	.545	.568	.586	.600	.611	.620	.627	.634	.639	.643	.646	.649	.651	.653	.654	.654	.648	.648
.470 *	.466	.520	.553	.577	.595	.609	.620	.630	.637	.644	.649	.653	.657	.660	.662	.663	.664	.665	.659	.659
.475 *	.473	.528	.562	.586	.604	.618	.630	.639	.647	.654	.659	.664	.667	.670	.672	.674	.675	.676	.676	.669
.480 *	.480	.536	.570	.594	.613	.628	.639	.649	.657	.654	.669	.674	.678	.681	.683	.685	.686	.687	.688	.681
.485 *	.487	.544	.579	.603	.622	.637	.649	.659	.667	.674	.680	.684	.688	.691	.694	.696	.697	.698	.699	.692
.490 *	.494	.552	.587	.612	.631	.646	.659	.669	.677	.684	.690	.695	.699	.702	.705	.707	.708	.709	.710	.703
.495 *	.501	.560	.595	.621	.640	.656	.668	.679	.687	.695	.701	.706	.710	.713	.716	.718	.719	.720	.721	.714
.500 *	.508	.568	.604	.630	.650	.665	.678	.689	.697	.705	.711	.716	.720	.724	.727	.729	.731	.732	.732	.733

Tabla 11. Continuación. Aforador de 100 x 270 cm.

h_a metros	$(h_a - h_b)$, metros																			
	.005	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
.505	.515	.576	.613	.639	.659	.675	.688	.699	.708	.715	.721	.727	.731	.735	.738	.740	.742	.743	.744	.744
.510	.522	.584	.621	.648	.668	.685	.698	.709	.718	.726	.732	.737	.742	.746	.749	.751	.753	.754	.755	.755
.515	.529	.592	.630	.657	.676	.694	.708	.719	.728	.736	.743	.748	.753	.757	.760	.762	.764	.766	.767	.767
.520	.536	.600	.638	.666	.687	.704	.718	.729	.738	.746	.753	.759	.764	.768	.771	.774	.776	.777	.778	.779
.525	.543	.608	.647	.675	.696	.714	.728	.739	.749	.757	.764	.770	.775	.779	.782	.785	.787	.789	.790	.791
.530	.551	.616	.656	.684	.706	.723	.738	.749	.759	.768	.775	.781	.786	.790	.793	.796	.798	.800	.801	.802
.535	.558	.624	.664	.693	.715	.733	.748	.760	.770	.778	.785	.791	.797	.801	.805	.807	.810	.812	.813	.814
.540	.565	.632	.673	.703	.725	.743	.759	.770	.780	.789	.796	.802	.808	.812	.816	.819	.821	.823	.825	.826
.545	.573	.641	.682	.712	.735	.753	.768	.780	.791	.799	.807	.813	.819	.823	.827	.830	.833	.835	.836	.837
.550	.580	.649	.691	.721	.744	.763	.778	.791	.801	.810	.818	.824	.830	.835	.839	.842	.844	.847	.848	.849
.555	.587	.657	.700	.730	.754	.773	.788	.801	.812	.821	.829	.835	.841	.846	.850	.853	.856	.858	.860	.861
.560	.595	.665	.709	.740	.764	.783	.798	.811	.822	.832	.840	.847	.852	.857	.861	.865	.868	.870	.872	.873
.565	.602	.674	.718	.749	.773	.793	.809	.822	.833	.843	.851	.858	.864	.869	.873	.877	.880	.882	.884	.885
.570	.610	.682	.727	.758	.783	.803	.819	.832	.844	.854	.862	.869	.875	.880	.885	.888	.891	.894	.896	.897
.575	.617	.691	.736	.768	.793	.813	.829	.843	.855	.864	.873	.880	.886	.892	.896	.900	.903	.906	.908	.909
.580	.625	.699	.745	.777	.803	.823	.840	.853	.865	.875	.884	.891	.898	.903	.906	.912	.915	.918	.920	.921
.585	.632	.707	.754	.787	.812	.833	.850	.864	.876	.886	.895	.903	.909	.915	.920	.924	.927	.930	.932	.934
.590	.640	.716	.763	.796	.822	.843	.860	.875	.887	.897	.906	.914	.921	.926	.931	.935	.939	.942	.945	.946
.595	.647	.724	.772	.806	.832	.853	.871	.885	.898	.908	.918	.925	.932	.938	.943	.947	.951	.954	.956	.958
.600	.655	.733	.781	[illegible]	[illegible]	.864	.881	.896	.909	.920	.929	.937	.944	.950	.955	.959	.963	.966	.968	.970
.605	.662	.742	.790	[illegible]	[illegible]	.874	.892	.907	.920	.931	.940	.948	.955	.961	.967	.971	.975	.978	.981	.983
.610	.670	.750	.799	[illegible]	[illegible]	.884	.902	.918	.931	.942	.952	.960	.967	.973	.979	.983	.987	.990	.993	.995
.615	.678	.759	.809	[illegible]	[illegible]	.895	.913	.929	.942	.953	.963	.971	.979	.985	.991	.995	.999	1.003	1.005	1.008
.620	.686	.767	.818	[illegible]	[illegible]	.905	.924	.939	.953	.964	.974	.983	.990	.997	1.002	1.007	1.011	1.015	1.018	1.020
.625	.693	.776	.827	.864	.892	.915	.934	.950	.964	.975	.986	.995	1.002	1.009	1.014	1.019	1.024	1.027	1.030	1.033
.630	.701	.785	.836	.874	.903	.926	.945	.961	.975	.987	.997	1.006	1.014	1.021	1.027	1.032	1.036	1.040	1.043	1.045
.635	.709	.794	.846	.884	.913	.936	.956	.972	.986	.993	1.009	1.018	1.026	1.033	1.039	1.044	1.048	1.052	1.055	1.058
.640	.717	.802	.855	.893	.923	.947	.967	.983	.998	1.010	1.020	1.030	1.038	1.045	1.051	1.056	1.061	1.064	1.068	1.070
.645	.724	.811	.865	.903	.933	.957	.977	.994	1.009	1.021	1.032	1.041	1.050	1.057	1.063	1.068	1.073	1.077	1.080	1.083
.650	.732	.820	.874	.913	.943	.968	.988	1.005	1.020	1.033	1.044	1.053	1.062	1.069	1.075	1.081	1.085	1.089	1.093	1.096
.655	.740	.829	.884	.923	.954	.979	.999	1.017	1.031	1.044	1.055	1.065	1.074	1.081	1.087	1.093	1.098	1.102	1.106	1.109
.660	.748	.838	.893	.933	.964	.989	1.010	1.028	1.043	1.055	1.067	1.077	1.086	1.093	1.100	1.105	1.110	1.115	1.118	1.121
.665	.756	.847	.903	.943	.974	1.000	1.021	1.039	1.054	1.067	1.079	1.089	1.098	1.105	1.112	1.118	1.123	1.127	1.131	1.134
.670	.764	.856	.912	.953	.985	1.011	1.032	1.050	1.066	1.079	1.091	1.101	1.110	1.118	1.124	1.130	1.136	1.140	1.144	1.147
.675	.772	.864	.922	.963	.995	1.021	1.043	1.061	1.077	1.091	1.102	1.113	1.122	1.130	1.137	1.143	1.148	1.153	1.157	1.160
.680	.780	.873	.931	.973	1.006	1.032	1.054	1.073	1.089	1.102	1.114	1.125	1.134	1.142	1.149	1.155	1.161	1.165	1.170	1.173
.685	.788	.882	.941	.983	1.016	1.043	1.065	1.084	1.100	1.114	1.126	1.137	1.146	1.154	1.162	1.168	1.174	1.178	1.183	1.186
.690	.796	.891	.951	.993	1.027	1.054	1.076	1.095	1.112	1.126	1.138	1.149	1.159	1.167	1.174	1.181	1.186	1.191	1.195	1.199
.695	.804	.901	.960	1.004	1.037	1.065	1.087	1.107	1.123	1.138	1.150	1.161	1.171	1.179	1.187	1.193	1.199	1.204	1.208	1.212
.700	.812	.910	.970	1.014	1.048	1.076	1.099	1.118	1.135	1.149	1.162	1.173	1.183	1.192	1.199	1.206	1.212	1.217	1.222	1.225
.705	.820	.919	.980	1.024	1.058	1.086	1.110	1.130	1.147	1.161	1.174	1.186	1.195	1.204	1.212	1.219	1.225	1.230	1.235	1.239
.710	.828	.928	.990	1.034	1.069	1.097	1.121	1.141	1.158	1.173	1.185	1.198	1.208	1.217	1.225	1.232	1.238	1.243	1.248	1.252
.715	.836	.937	.999	1.045	1.080	1.108	1.132	1.153	1.170	1.185	1.198	1.210	1.220	1.229	1.237	1.244	1.251	1.256	1.261	1.265
.720	.845	.946	1.009	1.055	1.090	1.119	1.144	1.164	1.182	1.197	1.211	1.222	1.233	1.242	1.250	1.257	1.264	1.269	1.274	1.278
.725	.853	.955	1.019	1.065	1.101	1.130	1.155	1.176	1.194	1.209	1.223	1.235	1.245	1.255	1.263	1.270	1.277	1.282	1.287	1.292
.730	.861	.965	1.029	1.076	1.112	1.142	1.166	1.187	1.205	1.221	1.235	1.247	1.258	1.267	1.276	1.283	1.291	1.295	1.301	1.305
.735	.869	.974	1.039	1.086	1.123	1.153	1.178	1.199	1.217	1.233	1.247	1.259	1.270	1.280	1.289	1.296	1.303	1.309	1.314	1.318
.740	.877	.983	1.049	1.096	1.134	1.164	1.189	1.211	1.229	1.245	1.259	1.272	1.283	1.293	1.301	1.309	1.316	1.322	1.327	1.332
.745	.885	.993	1.059	1.107	1.144	1.175	1.201	1.222	1.241	1.257	1.272	1.284	1.296	1.306	1.314	1.322	1.329	1.335	1.341	1.345
.750	.894	1.002	1.069	1.117	1.155	1.186	1.212	1.234	1.253	1.270	1.284	1.297	1.308	1.318	1.327	1.335	1.342	1.348	1.354	1.359

Tabla 11. Continuación. Aforador de 100 x 270 cm.

h_a metros	$(h_a - h_b)$, metros									
	.105	.110	.115	.120	.125	.130	.135	.140	.145	.150
.505 *	.737	.737	.737	.737	.737	.737	.737	.737	.737	.737
.510 *	.748	.748	.748	.748	.748	.748	.748	.748	.748	.748
.515 *	.760	.760	.760	.760	.760	.760	.760	.760	.760	.760
.520 *	.779	.771	.771	.771	.771	.771	.771	.771	.771	.771
.525 *	.791	.783	.783	.783	.783	.783	.783	.783	.783	.783
.530 *	.803	.794	.794	.794	.794	.794	.794	.794	.794	.794
.535 *	.814	.806	.806	.806	.806	.806	.806	.806	.806	.806
.540 *	.826	.818	.818	.818	.818	.818	.818	.818	.818	.818
.545 *	.838	.838	.830	.830	.830	.830	.830	.830	.830	.830
.550 *	.850	.850	.842	.842	.842	.842	.842	.842	.842	.842
.555 *	.862	.862	.854	.854	.854	.854	.854	.854	.854	.854
.560 *	.874	.875	.866	.866	.866	.866	.866	.866	.866	.866
.565 *	.886	.887	.878	.878	.878	.878	.878	.878	.878	.878
.570 *	.898	.899	.899	.890	.890	.890	.890	.890	.890	.890
.575 *	.910	.911	.911	.902	.902	.902	.902	.902	.902	.902
.580 *	.923	.923	.924	.914	.914	.914	.914	.914	.914	.914
.585 *	.935	.936	.936	.927	.927	.927	.927	.927	.927	.927
.590 *	.947	.948	.949	.939	.939	.939	.939	.939	.939	.939
.595 *	.960	.961	.961	.961	.952	.952	.952	.952	.952	.952
.600 *	.972	.973	.974	.974	.964	.964	.964	.964	.964	.964
.605 *	.984	.986	.986	.987	.977	.977	.977	.977	.977	.977
.610 *	.997	.998	.999	.999	.989	.989	.989	.989	.989	.989
.615 *	1.009	1.011	1.012	1.012	1.002	1.002	1.002	1.002	1.002	1.002
.620 *	1.022	1.023	1.024	1.025	1.025	1.015	1.015	1.015	1.015	1.015
.625 *	1.035	1.036	1.037	1.038	1.038	1.028	1.028	1.028	1.028	1.028
.630 *	1.047	1.049	1.050	1.051	1.051	1.040	1.040	1.040	1.040	1.040
.635 *	1.060	1.062	1.063	1.064	1.064	1.053	1.053	1.053	1.053	1.053
.640 *	1.073	1.074	1.076	1.077	1.077	1.066	1.066	1.066	1.066	1.066
.645 *	1.085	1.087	1.089	1.090	1.090	1.090	1.079	1.079	1.079	1.079
.650 *	1.098	1.100	1.102	1.103	1.103	1.104	1.092	1.092	1.092	1.092
.655 *	1.111	1.113	1.115	1.116	1.117	1.117	1.106	1.106	1.106	1.106
.660 *	1.124	1.126	1.128	1.129	1.130	1.130	1.119	1.119	1.119	1.119
.665 *	1.137	1.139	1.141	1.142	1.143	1.144	1.132	1.132	1.132	1.132
.670 *	1.150	1.152	1.154	1.155	1.156	1.157	1.157	1.145	1.145	1.145
.675 *	1.163	1.165	1.167	1.169	1.170	1.170	1.171	1.159	1.159	1.159
.680 *	1.176	1.178	1.180	1.182	1.183	1.184	1.184	1.172	1.172	1.172
.685 *	1.189	1.192	1.194	1.195	1.196	1.197	1.198	1.186	1.186	1.186
.690 *	1.202	1.205	1.207	1.209	1.210	1.211	1.211	1.199	1.199	1.199
.695 *	1.215	1.218	1.220	1.222	1.223	1.224	1.225	1.225	1.213	1.213
.700 *	1.229	1.231	1.234	1.236	1.237	1.238	1.239	1.239	1.226	1.226
.705 *	1.242	1.245	1.247	1.249	1.251	1.252	1.252	1.253	1.240	1.240
.710 *	1.255	1.258	1.261	1.263	1.264	1.265	1.266	1.267	1.254	1.254
.715 *	1.269	1.272	1.274	1.276	1.278	1.279	1.280	1.281	1.268	1.268
.720 *	1.282	1.285	1.288	1.290	1.292	1.293	1.294	1.295	1.295	1.281
.725 *	1.295	1.299	1.301	1.304	1.305	1.307	1.308	1.308	1.309	1.295
.730 *	1.309	1.312	1.315	1.317	1.319	1.321	1.322	1.322	1.323	1.309
.735 *	1.322	1.326	1.329	1.331	1.333	1.335	1.336	1.337	1.337	1.323
.740 *	1.336	1.339	1.342	1.345	1.347	1.349	1.350	1.351	1.351	1.337
.745 *	1.349	1.353	1.356	1.359	1.361	1.363	1.364	1.365	1.365	1.366
.750 *	1.363	1.367	1.370	1.373	1.375	1.377	1.378	1.379	1.380	1.380