STANDARD NOTATIONS
of
TECHNICAL TERMS
관개 배수사업의 부호 및 기술용어
COMMONLY USED IN IRRIGATION AND DRAINAGE
PART I

注 : 지금까지 學會誌 原稿에 記述하여오던 灌漑排水에 관한 技術用語 및 符號가 구구 하였으나 앞으로는 統一性을 期하기 爲하여 國際灌漑排水 委員會에서 發刊하는 책자(Standard notations of Technical Terms) 1, 2, 3권중 1권을 소개 하오니 學會誌 原稿作成에 널리 利用하여 주시기 바랍니다.

PREFACE

At its 1965 meeting held in Athens, the International Executive Council decided hat it appeared desirable to standardize symbols, notations and nomenclature of terms ommonly used in irrigation, drainage, flood control and river training practices and ngineering with a view to ensuring uniformity of usage in the publications of the ICID nd for better comprehension of the papers presented.

The Council, therefore, set up a Working Group comprising Mr. F. Penman (Aus ralia), Mr. J. Tixeront (France), Prof. Enrico Romano (Italy), Mr. D. Diaz-Ambrona Spain), a representative each from the U.S.A. and the U.S.S.R. National Committees nd the Secretary-General to prepare the necessary notations, symbols and nomenclature.

Since then the Working Group has held two meetings and has also tried to finalise he notations, symbols and nomenclature by correspondence. It final report on "Basic princ ples for preparation of notations, etc"., "standard notations of general terms" and "standard notations pertaining to methods of irrigation" was presented to the Council at its meeting n Cairo in March 1968. The Council, however, desired that the notations finalised by he Workidg Group be circulated to the National Committees for further exammination, nd any suggestion received from them be reviewed and finalised by a small Working Group (President G.E. Papadopoulos, Secretary-General K.K. Framji, Mr. G. Drouhin and Mr. P.A. Scott) by correspondence, after which they should be sent to the National Committees for adoption.

The notations and symbols, as finalised, are presented in Part I The National Committees are enjoined that the authors of papers and reports (written in English) submitted for the ICID Congresses, Bulletin, and other publications of the ICID should conform, so far as possible, to the notations and symbols given in this Part. The corres ponding French symbols and notations are under preparation and will be circulated to the

National Committees for adoption in papers written in French.

The Secretary-General sincerely thanks the members of the Working Groups for the hard work put in by them and the National Committees for their whole-hearted co-operation in finalising Part I of the notations.

In accordance with the decision of the Council, Part II of the Notations will contain symbols and nomenclature of terms pertaining to "Elements of irrigation and drainage systems".

The Council has also decided that the ICID should, for the time being, confine itself to the notations, symbols and nomenclature pertaining to the "Methods of irrigation" and "Elements of irrigation and drainage systems" and study their utility for some time before attempting to proceed further with the preparation of notations, etc., in respect of other aspects of irrigation, drainage, flood control and river training.

K.K. Framji
Secretary-General

Dated January 3. 1969.

CONTENTS

STANDARD NOTATIONS OF TECHNICAL TERMS COMMONLY USED IN IRRIGATION AND DRAINAGE

BASIC PRINCIPLES

(1) Notations for general terms have first been denoted, *e.g.*, "A" for"area"; "c" for"coefficients", "p"for pressures, etc. The precise type of area, pressure, coefficients, etc., are designated by fixing suffixes before, or after the symbol for the general-terms as may be necessary, for example, "area of a field" would be denoted by "$A(f_i)$"; evaporation from a soil surface by E_s, and so on.

(2) Where the suffix is for a notation already covered in the basic standard

symbols, it would appear without brackets, *e.g.*, "Transpiration ratio" by the suffix '*r*' for ratio in T_r, and "evaporation from a soil surface" by the suffix '*s*' for soil in E_s.

But for terms not covered in the basic standard notations, a list of special suffixes for common symbols(list not exhaustive) as provisionally adopted has been given, such symbols being given in brackets, where without brackets the symbol might relate to another term, *e.g.*, in $W_{(l)}$, (l) denotes loss (es), whereas in W_i, l denotes "length of water run".

(3) Composite terms like "*PF*" denoting logarithm of soil moisture potential, and (*CME*) denoting soil moisture equivalent have been retained as currently being used in the literature, but they have been put in brackets $(PF)_1$ and $(CME)_1$ since without brackets P can be taken for pressure and F for moment and E for evaporation.

(4) Standard symbols for Chezy's coefficient, Reynolds number, Manning's coeffici ent, Froude number have been kept the same as in literature, namely C, R_e, N, F_1. Notwithstanding the above principles and the symbols, C, R, N, F have been used to denote other terms, namely Coefficients, Radius or Range, specific number (parameters), Frequency (particularly of irrigation), respectively.

II NOTATIONS OF TERMS

1. STANDARD NOTATIONS FOR GENERAL TERMS

A = Area

a = Absorption

B = Width of works, areas, etc.

b = Width of water run

C = Coefficients

c = Critical (subscript)

D = Diameter

d = Depths below ground

E = Evaporation

e = Exponential number (2.71828)

F = Frequency (particularly of irrigation)

f = Factors

G = Specific gravity

g = Acceleration due to gravity

H = Height over hardings

h = Heads

I = Infiltration Intake

i = Intensity

J = Total head loss

j = Head loss per unit length

K = Hydraulic conductivity

k = Permeability

L = Length of works, channels, areas, waves.

l = Length of water run

M = Moment

m = Moisture

N = Specific number(parameter)

n = Number ; Number of observations

O =

o = Unit

P = Forces ; Perimeters

p = Pressures

Q = Flow rate (discharge)

Q_o = Flow per unit width

q = Flow coefficient (per unit benefited area)

R Radius Range

r = Ratios

S = Soil

s = Slope or Gradient

T = Transpiration

θ = Temperature

t = Time

U =

u =

V = Volumes

v = Velocities

v_* Shear velocity

W Water quantity

$w(\cdot)$ = Water loss

w Weights

X = Spacing

x = Distance of any point or section

Y =

y = Depth over ground

Z =

z =

Σ = Accumulation (Totals)

$\triangle$ = Difference ; Diversity

$+$ = Surplus ; Compression

$-$ = Deficiency ; Tension

$\times$ = Cross ; Across

$\int$ = Integrated

σ = Stress

$\bar{}$ Superscript = Mean ; Average

$\rightarrow$ Superscript = Potential

δ = Differential

α = Angle

ϕ = Interval

τ = Shear stress

μ = Dynamic viscosity

η = Efficiency

ν = Kinematic viscosity

ω = Angular velocity

ρ = Rate

χ = Deviation

2. SUBSCRIPTS

(a) = Available

(cr) = Crops, cropland

(cv) = Conveyance

(fi) = Field, Farm

(fu) = Furrow

(H) = Hydraulic

(i) = Inflow, Intake, Initial

(ir) = Irrigation

(l) = Losses

max = Maximum

min = Minimun

(O) = Outflow

(Pj) = Project

(r) = Released

(rz) = Root zone

(u) = Use

(U) = Uniformity

(L) = Lateral

(sP) = Sprinkler

(R) = Rotation

(w) = Wetted

(s) = Saturation

(pl) = Percolation

(dr) = Drop

Ⅱ NOTATIONS RELATING TO "METHODS OF IRRIGATION"

1. COMMON TERMS

Terms	*Notations or Symbols*
1. Dry weight of unit of unit of soil	$w_o s_{(dry)}$
2. Wet weight of unit of soil	$w_o s_{(w)}$
3. Weight of unit of water	$w_o w$
4. Apparent specific gravity of soil	$Gs_{(appar)}$
5. Real specific gravity of soil	$Gs_{(re)}$
6. Percentage pore space	$\%_{(ps)}$
7. Soil moisture tension	σ-Sm
8. Centrifuge moisture equivalent	(CME)
9. Soil moisture stress	σSm
10. Inetegrated soil moisture stress	$\int \sigma Sm$
11. Wilting point	(WP)
12. Soil moisture potential	$\overrightarrow{Sm}$
13. Logarithm of soil moisture potential	(pF)
14. Field capacity (depth units, % volume of soil, % of dry weight of soil)	$(F.C.)$
15. Volume of potential moisture(readily available for plant use), or Root zone reservoir capacity (in depth units)	$\overrightarrow{V_m}$
16. Volume of less readily available moisture for plant use (depth units)	$Vm_{(a)}$
17. Field moisture deficiency	m-(f_i)
18. Osmotic pressure	$p_{(os)}$
19. Evaporation from soil surface	Es
20. Transpiration ratio	T_r
21. Evapotranspiration	E_t
22. Potential evapotranspiration	$\overrightarrow{E_t}$
23. Infiltration rate or Intake rate	$I\rho$
24. Basic intake rate or Final intake rate (depthunit per unit time)	$I\rho_{(f_{in})}$
25. Average intake rate (for a given depth of irrigation)	$I\rho$
26. Accumulated intake rate in respect of time intervalst_1,	$\sum_{i1}^{Tn} I\delta$

Terms	*Notations or Symbols*
$t_2, t_3, \cdots$at the upper end	
27. Infiltration head	I_h
28. Infiltration rate per unit area	$I\rho_o$
29. Cumulative intake at upper end during irrigation	ΣI
30. Quantity of irrigation water actually consumed by crops in the project area over a given period	$W_{(cr)}$
31. Quantity of irrigation water actually released from source over the corresponding period, whether from surface storage, ground-water storage or run-of-the river divers ions	$W_{(r)}$
32. Quantity of irrigation water to be released as per water allocation including unavoidable water losses	$W_{(ar)}$
33. Quantity of avoidable waste of water during correspo nding period	$N_{(l)}$
34. Ideal irrigation requirements calculated at source over the corresponding period	Ideal $W_{(ir)}$
35. Accumulated excess or deficit in actual releases at source over the corresponding period	$\pm \Sigma \triangle W_{(r)}$
36. Irrigation water delivered to a cropland unit (field, farm or group) in a given period (volume or depth units)	$W_{(fi)}$
37. Ideal irrigation water delivery requirements to cropland unit (field, farm or group) over the corresponding period (volume or depth units)	Ideal $W_{(fi)}$
38. Excess or deficit in actual irrigation deliveries to the cropland unit over the corresponding period(volume or depth units)	$\pm \Sigma \triangle W_{(fi)}$
39. Water stored in the soil root zone over the correspond ing period, during irrigation, in the cropland unit(vol ume or depth units)	$Ws_{(rz)}$
40. Water needed in the root zone prior to each irrigation over the corresponding period in the cropland unit (volume or depth units)	$Ws_{(rz-need)}$
41. Normal consumptive use of water of the cropland unit in a given period (volume or depth units)	$W_{(u)}$
42. Average amount of water depleted from root zone soil of the cropland unit over the corresponding period	$\overline{W}_{(lrz)}$
43. Average volume of water absorbed by the soil of a cropland unit during irrigation	$\overline{W}_{sa}$
44. Average deviation of water absorbed by the soil of the cropland unit at each sampling point during irriga tion from the average absorbed	$\overline{\chi W}_{sa}$
45. Average amount of moisture in the root zone of the cropland unit immediately after irrigation	$\overline{m}_{(rz)}$
46. Numerical value of the average deviation of moisture in each sample from the average amount of moisture	

Terms	Notations or Symbols
in the root zone immediately after irrigation	$x_m(_{rz})$
47 Irrigation efficiency	$\eta(_{ir})$
48. Project irrigation efficiency	$\eta(_{pi})$
49. Water conveyance efficiency	$\eta(_{cu})$
50. Conveyance diversity factor	$f\ \triangle\ (_{cu})$
51. Water application efficiency	$\eta(_{wi})$
52. Application diversity factor	$f\ \triangle\ (_{wa})$
53. Water storage efficiency, or waser storage factor	$\eta(_{ws})$
54. Consumptive use efficiency	$\eta(_{u})$
55. Field water distribution efficiency, for field water distribution factor	$\gamma(_{wd})$
56. Moisture distribution factor or Uniformity coefficient	$C\ (_{U})=100\left(1-\frac{\chi}{\Sigma_m}\right)$
57. Moisture distribution efficiency, see No. 56	$\eta(_{md})$
58. Operational effciency	$\eta(_{op})$
59. Irrigation interval or Frequency of irrigation	$\psi(_{ir})$
60. Minimun interval between irrigations	$\psi(_{i})_{min}$
61. Chezyrs coefficient	C
62. Froude number	F

2. SUREACE IRRIGATION

Terms	Notations or Symbols
63. Reynolds number	R_e
64. Manning's orKutter's roughness factor	N
65. Moment flux of water	$M(_{fw})$
66. Static force at any flow section	$P(_{st})$
67. Horizontal component of force on the bottom of the channel due to weight of water	$P(_{h})$
68. Head loss between two sections of flow	$J(_{n1-n2})$
69. Inflow rate or initial inflow into the system	$Q(_{i})$
70. Unit inflow rateor unit stream	$q(_{i})$
71 Flow rate across surface of profile in differential element	$Q(\delta_i)$
72 Flow rate into the differential element of the surface profile	$Q(\sigma_i)_1$

Terms	*Notations or Symbols*
73. Flow rate out of the differential element of the surface profile	$Q(\delta_l)_2$
74. Velocity of advance of wetting front	$v(_{ad})$
75. Intake velocity corresponding to	$i(_i)$
76. Velocity into differential elemen	$v(\delta_l)_1$
77. Velocity out of the differential element	$v(\delta_l)_2$
78. Average velocity across surface of differential element	$v(\delta_l)_{12}$
79. Velocity of horizontal recession	$v(_{hr})$
80. Velocity of vertical recession	$v(_{vr})$
81. Duration of application per season	$t(_{ir})$
82. Irrigation application time after introduction of water supply; or the Time water has been at the upper end in furrow or border; or Operational time of sprinkler per irrgation	$t(_{wo})$
83. Time required by the wetting front to traverse the run	tc
84. Any given application times and in equal in crements of time	t_1, t_2, t_3
85. Time associated with nth profile	t_n
86. Timeof infiltration in differential section	$t_1(\delta_l)$
87. Verticalrecession lag time	$t_{ucrt\cdot l})$
88. Horizontal recession lag time	$t(_{horx\cdot l})$
89. Recessaion lag time, or Time required for the surface storage to infiltrate after the inflowhas beən shut after one irrigation	$t(_{rl})$
90. Time ratio or time required for the root zone to become fully saturated with no deep percolatioon	$t(_s)$
91. The ratio of time required to fill the root zone to the time required for the water to reach the end zone	$r_t = \frac{t(_s)}{t_l}$
92. Total time of infiltration of the irrigation water after the introduction of water supply	$\Sigma\ t_1$
93. Length of run in a furrow, or Length of bordeder covered by water	$l(_{fu})$
94. Maximum allowable ledgth of run or length of border	t_{max}
95. Optimum furrow length under given conditions	$l(_{opt})$
96. Average width of flow channel in a border or furrow	$\overline{B}$
97. Bottom width of furrow or border	$B(_b)$
98. Spacing of furrows	$X(_{fu})$
99. Maximum allowable furrow spacing	$X(_{fu})_{max}$
100. Area covered by water during irrigation	$A(_{ir})$

Terms	*Natations or Symbls*
101. Distance of any section fron upper end of the run	x
102. Distance ratio	r_x
103. Length of run covered by water at times t_1, t_2, t_3 respectively	$l_1,\ l_2,\ l_3\cdots$
104. Free-board (Distance between the top water surface in the run in an irrigation ditch and the top of furrow or border ridge)	$(F.B.)$
105. Average bed slope of the furrow length or length of strip	$\bar{s}_{(b)}$
106. Average slope of water surface of the strean	$\bar{s}_{(s)}$
107. Average cross slope of the flat-bottom furrow or border	$\bar{s}_{(x\cdot fu)}$
108. Wetted perimeter of the furrow or border	$P_{(w)(fu)}$
109. Cross . .ctional area of flow	A_x
110. Hydraulic radius	$R_{(H)}$
111. Depth of water on surface	y
112. Normal depth of flow at the upstream end of the run as determined by Chezy's equation	$y_{(nor)}$
113. Initial depth of flow at the upstreamen d of the run	$y_{(i)}$
114. Average depthof water on soil surface or average depth of surface storage immediately after irrigation when the inflow supply has been shut off	$\bar{y}$
115. Average depth of water on soil surface at a given time $t_1,\ t_2,\ t_3$	$\bar{y}^{t}{}_1,\ \bar{y}^{t}{}_2$
116. Depth of surface profile just prior to when it is reduced to zero at the wetting front	y_{base}
117. Depth at upstream face of differential element	$y(\delta_l)_1$
118. Depth at downstream face of differential ele- ment	$y(\delta_l)_2$
119. Change of depth across differential element	$\triangle y(\delta_l)$
120. Width of differential element	δ_l
121. Average depth of water absorbed by the soil at a given time $t_1,\ t_2,\ t_3\cdots$	$\bar{d}_{a(t1)},\ \bar{d}_{a(t2)}$
122. Depth of water absorbed by the soil at the upper end during irrigation	$d_{a(up)}$
123. Depth of water absorbed by the soil at the lower end durine irrigation	$d_{a(lo)}$
124. Average depth of water absorbed during one irrigation	$\bar{d}_{a(ir)}$
125. Depth of water absorbed by the soil at any point along the run	$\bar{d}_{ax1},\ \bar{d}_{ax2}$
126. Average depth of excessive infiltration beyond the root zone during irrigation	$\bar{d}_{1(exc)}$

Terms	*Notations or Symbols*
127. Deep percolation loss as a percentage	$\%_{(pl)}$
128. Depth of water absorbed in time t_1	d_{at1}
129. Depth of water absorbed in second time interval	d_{at2}
130. Accumulated depth of water absorbed at any point after each successive time interval	Σd_a
131. Average root zone depth during irrigation (depending on stage of growth of the crop)	$\overline{d_{(rz)}}$
132. Application ratio	$r_{(ap)}$

3. SPRINKLER IRRIGATION

Terms	*Notations or Symbols*
132. Area of cropland unit	$A_{(cr)}$
133. Area covered by one sub-main	$A_{(SM)}$
134. Area covered by lateral	$A_{(L)}$
135. Area covered per sub-lateral setting	$A_{(SL)}$
136. Length of cropland unit	$L_{o(cr)}$
137. Width of cropland unit	$B_{o(cr)}$
138. Length of main pipeline	$L_{(M)}$
139. Length of main pipeline outside the cropland unit	$L_{(M1)}$
140. Length of main pipeline inside the cropland unit	$L_{(M2)}$
141. Length of sub-main	$L_{(SM)}$
142. Number of sub-main	$n_{(SM)}$
143. Length of lateral	$L_{(L)}$
144. Number of latersals	$n_{(L)}$
145. Lenght of sub-lateral	$L_{(SL)}$
146. Number of sub-laterals	$n_{(SL)}$
147. Spaces between sub-mains on the main pipe-line	$X_{(SM)}$
148. Spacing between lateral	$X_{(L)}$
149. Spacing between laterals	$X_{(SL)}$
150. Spacing between sprinklers	$X_{(sp)}$
151. Spacing between the distal sprinkler and the border of the cropland unit	$X_{(dsp)}$
152. Number of sprinkler per lateral	$n_{(sp)}$ (,)

Terms	*Notations of Symboss*
53. Diameter of the main pipeline	$D_{(M)}$
54. Diameter ef sub- main	$D_{(SM)}$
55. Diameter of the lateral pipe	$D_{(L)}$
56. Diameter of the sub-lateral pipe	$D_{(SL)}$
57. Diameter of the sprinkler or nozzle	$D_{(sp)}$
58. Cone angle of noozle orifice	$\alpha_{(noz)}$
59. Mainline discharge (at head)	$Q_{(M)}$
60. Sub-main discharge (at head)	$Q_{(SL)}$
61. Lateral disharge (at head)	$Q_{(L)}$
62. Sub-lateral discharge (at head)	$Q_{(SL)}$
63. Sprink :r discharge	$Q_{(sp)}$
64. Distal sprinkler discharge	$Q_{(dsp)}$
65. Correct pressure required in the mainline to operate sub-main or lateral; or Correct branch line inlet pressure; or Correct lateral inlet pressure	$P_{(M)}$
66. Actual pressur- in mainline at inlet of submain or lateral	$P_{(M)act}$
67. Average pressure at mainline at inlet of sub-main or latral	$\overline{P}_{(M)}$
68. Correct pressure required in sub-main to operate lateral or Correct inlet lateral pressure	$P_{(SM)}$
69. Actual pressure in sub-main at inlet of lateral	$P_{(SM)act}$
70. Average pressure in sub-main at inlet of lateral	$\overline{P}_{(SM)}$
71. Correct pressure required in lateral to operate sprinklers or sub-laterals	$P_{(L)}$
72. Actual pressure in lateral at a sprinkler or sub-lateral	$P_{(L)act}$)
73. Average pressure in a lateral at a sprinkler or sub-lateral	$\overline{P}_{(L)}$
74. Correct pressure required in lateral at the distal sprinkler	$P_{(L)dsp}$
75. Actual pressure in lateral at the distal sprinkler	$P_{(L)dsp-acd}$
76. Average pressure in lateral at the distal sprinkler	$\overline{P}_{(SL)}$
77. Correct pressure in sub-lateral required to operate a sprinkler	$P_{(SL)aci}$
78. Actual pressure in sub-lateral at a sprinkler	$\overline{P}_{(SL)}$
79. Average pressure in sub-lateral at a sprinkler	
80. Total head loss in main line pipe	$J_{(M)}$
81. Total head loss in main line pipe up to any point	$J_{(M)1}$
82. Totei head loss in one sub-main	$J_{(SM)}$

Terms	*Notations or Symbols*
183. Total head loss in a sub-main up to any point	$J_{(SM)_1}$
184. Total head loss in a lateral	$J_{(L)}$
185. Total head loss in a lateral up to any point	$J_{(L)_1}$
186. Total head loss in a lateral up to distal sprinkler	$J_{(L)_{dst}}$
187. Totel head loss in sub-lateral	$J_{(SL)}$
188. Permissible pressure loss on a lateral between first and the last sprinkler	Permissible $P(I_{sp}-L_{sp})$
189. Sprinkler range, radius of wetted circle of each sprinkler or radius of precipitation contour	$R_{(sp)}$
190. Diameter of coverage	$D_{(spc)}$
191. Sprinkler jet angle	$\alpha_{(sj)}$
192. Jet diameter	$D_{(j)}$
193. Drop diameter	$D_{(dr)}$
194. Mean drop diameter	$\overline{D}_{(dr)}$
195. Maximum drop diameter	$D_{(dr)_{max}}$
196. Initial tangential velocity of the drop	tan $v_{i_{(dr)}}$
197. Mean angular velocity of the drop	$\overline{\omega}_{(dr)}$
198. Terminal velocity of the drop finally approached and freely moving in air	$\omega_{(drt)}$
199. Angular velocity of the jet	$\omega_{(j)}$
200. Number of drops produced per unit time	$n_{(dr)}/_{ot}$
201. Area of the drop cross section perpendicular of the direction of motion	$A_{(dr)}$
202. Water loss caused by the marginal area	$W(-)_{(ma)}$
203. Instantaneous sprinkler intensity	$i_{(inst)}$
204. Sprinkler intensity, Hourly sprinkler intensity or application rate	$i_{(sp)}$
205. Pedologic Index*	$(P.I.)$
206. Number of rotations of the sprinkler per hour	$n_{(R)}$
207. Total number of passes at any point by boom sprinkler machine	$n_{(pbs)}$
208. Number of passes per hour at any point by the boom sprinkler machine	$n_{(pbs)_1}$
209. Speed of travel of the boom sprinkler machine per unit time	$(S)_{ot}$
210. Number of orifices per boom sprinkler machine	$n_{(or)}$

*pedologic Index $\frac{\text{Square of hourly sprinkler intensity}}{\text{Number of rotation ofthe sprinkler per hour}}$

Terms	*Notations or Symbols*
211. Dischaharge per orifie	$Q_{(or)}$
212. Total discharge of the boom sprinkler machine	$\Sigma\ Q_{(or)}$
213. Area of sampling covered by cans	$A_{(samp)}$
214. Spacing between cans in a row perpendicular to the plane of the plane of the jet	$X_{(cans)}$
215. Total number of sampling points where precipitation is measured in an overlapped pattern	$n_{(samp)}$
216. Depth of application at any sampling point	$d_{(ap)_1}$, $d_{(ap)_2}$
217. Mean depth of application over area of irrigated pattern	$\overline{d}_{(ap)}$
218. Deficiency at and sampling point of depth of application below that required to wet full zone depth	$-d_{(ap)}$
219. Excess at any sampling point of depth of application above that required just to wet root zone depth	$+d_{(ap)}$
220. Coeffcient of discharge	C_Q
221. Coefficient of velocity	C_v
222. Coefficient of contraction	$C_{(cont)}$
223. Drag coefficient	$C_{(D)}$
224. Drag force on the drop exerted by the air	$P_{(D)}$
225. Drag acceleration	$D_{(acc)}$
226. Weber number	W_e