

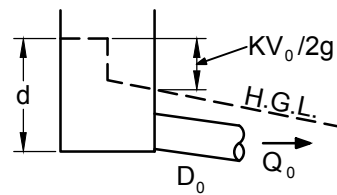
NOTATION:

SYMBOLS

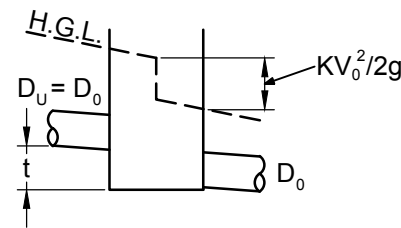
- Q FLOW RATE
- D DIAMETER
- d DEPTH
- V VELOCITY
- K HEADLOSS COEFFICIENT
- H STATIC HEADLOSS = $KV_0^2/2g$
- t PIPE DROP
- G ACCELERATION DUE TO GRAVITY (9.8m/s²)

SUBSCRIPTS

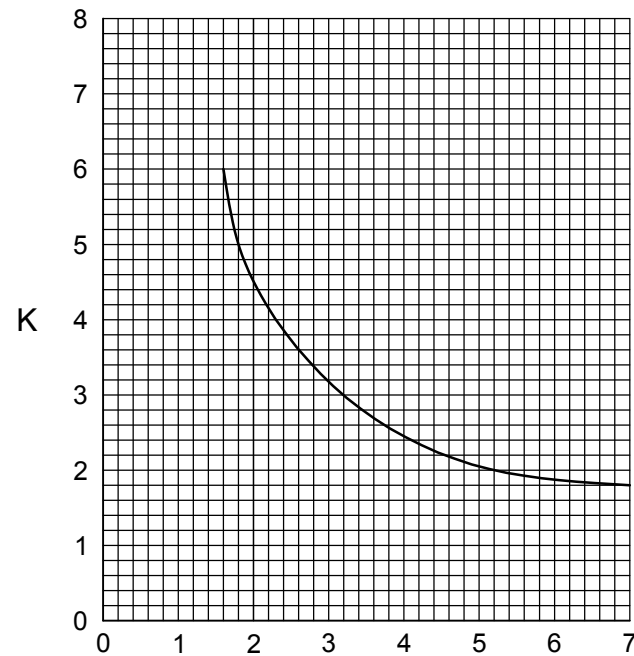
- O OUTLET
- U UPSTREAM
- L LATERAL
- G GRATING OR KERB INLET
- hv HIGHER VELOCITY
- lv LOWER VELOCITY
- f FAR
- sj STRAIGHT JUNCTION



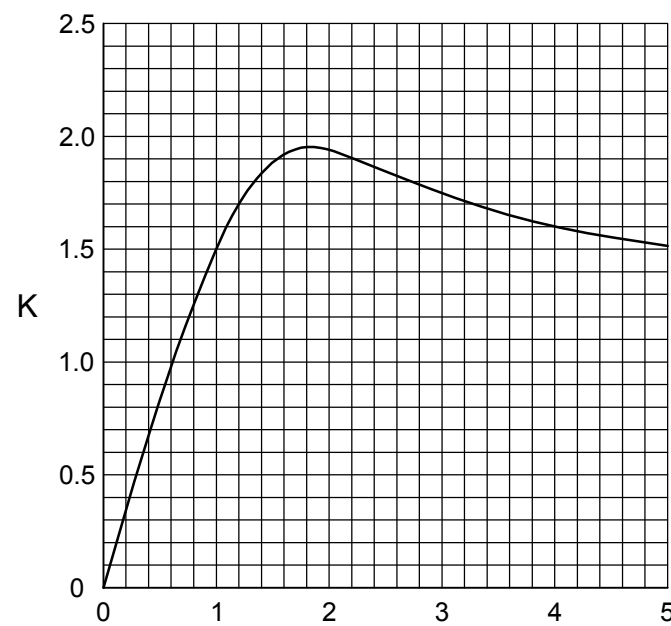
GRATE OR KERB INLET



STRAIGHT JUNCTION WITH DROP



RELATIVE DEPTH OF WATER IN INLET d/D_0



t / D_0

NOTES

1. INFORMATION FROM DEPARTMENT OF HOUSING MANUAL 1987.
2. REFER TO ARMIDALE REGIONAL COUNCIL'S ENGINEERING CODE STORMWATER DRAINAGE DESIGN HANDBOOK FOR ADDITIONAL HEADLOSS DATA.

TWO PIPE JUNCTIONS WITHOUT DROP

D_U/D_0	BRANCH POINT NOT ON DOWNSTREAM FACE			BRANCH POINT ON DOWNSTREAM FACE			WITH USE OF VERTICAL DEFLECTORS	
	θ	45°	67.5°	90°	45°	22.5°	0°	90°
0.7	1.5	1.7	2.05	-0.9	-1.6	-2.0	0.6	0.4
0.8	1.65	1.8	2.1	0	-0.6	-1.0	0.7	0.5
0.9	1.75	1.9	2.15	0.45	0	-0.25	0.9	0.7
1.0	1.85	2.0	2.2	0.6	0.3	0.2	1.1	0.9

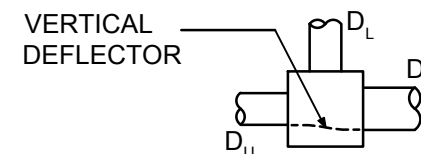
FOR GRATES $\theta=22.5^\circ$ TO 90° ADD Q_g/Q_0 IF $d/D_0 > 2$
 ADD $2Q_g/Q_0$ IF $d/D_0 < 2$
 $\theta=0^\circ$ ADD $6Q_g/Q_0$

MITRE BENDS (NO PITS)

ANGLE	0°	22.5°	45°	60°	90°
K	0	0.1	0.29	0.49	1.1

THREE PIPE JUNCTIONS

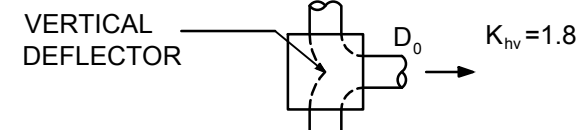
STRAIGHT JUNCTION WITH 90° LATERAL



Q_U/Q_0	0.3	0.6	0.9	1.0
$D_0=D_U$ NO DEFLECTOR: $K_U=K_L=1.8$	1.3	0.5	0.2	
WITH DEFLECTOR: $K_U=K_L=1.4$	1.0	0.4	0.2	

IF $D_0 > D_U$: ADD $\frac{1}{2}(Q_U/Q_0)(K_{U,S})$ (ACTUALLY REDUCES K)
 WITH GRATE: ADD Q_g/Q_0 IF $d/D_0 > 2$
 ADD $2Q_g/Q_0$ IF $d/D_0 < 2$

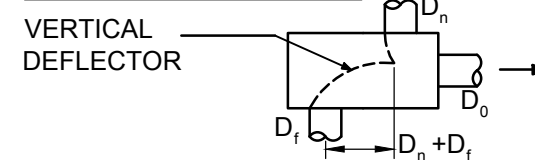
OPPOSED INLETS



Q_{hv}/Q_0	0.3	0.6	0.9
$D_0=D_{hv}$: $K_{lv} =$	1.5	2.0	3.0

WITH GRATE: NO CHANGE
 WITH DEFLECTOR: SUBTRACT 0.3, AND $K \neq 2$

OPPOSED OFFSET INLETS



Q_n IS Q_{hv} : $K_n=1.6, K_f=1.9$
 Q_n IS Q_{lv} : $K_n=1.6, K_f=2.4$
 WITH GRATE: ADD 0.2
 WITH DEFLECTOR SUBTRACT 0.3

Armidale Dept of Public Regional Council Infrastructure	SCALES NTS	APPROVED D. MAUNDER 31/08/2016 MANAGER ENGINEERING AND STANDARDS SUPPORT DATE	SHEET 1 OF 1	
	PIT STATIC HEADLOSS COEFFICIENTS	SURV DRWN ST DES CHKD MW	AS SHEET SIZE A3	DRAWING No 080-046
		CADFILE 080-046.dwg	DATE 31/08/2016	