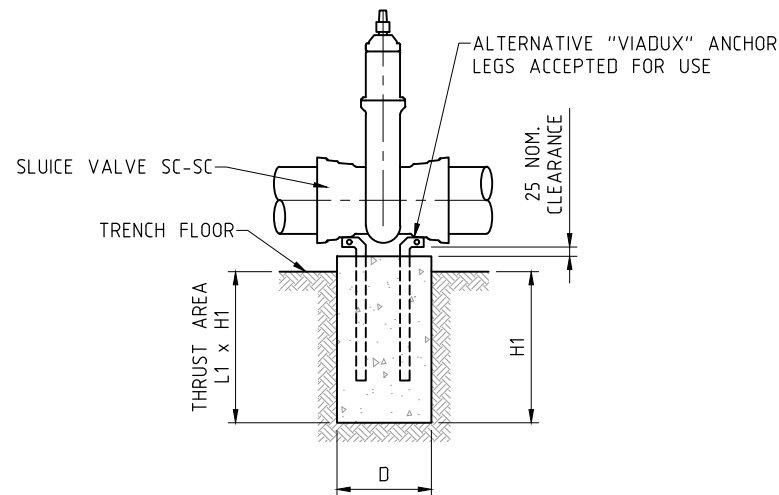
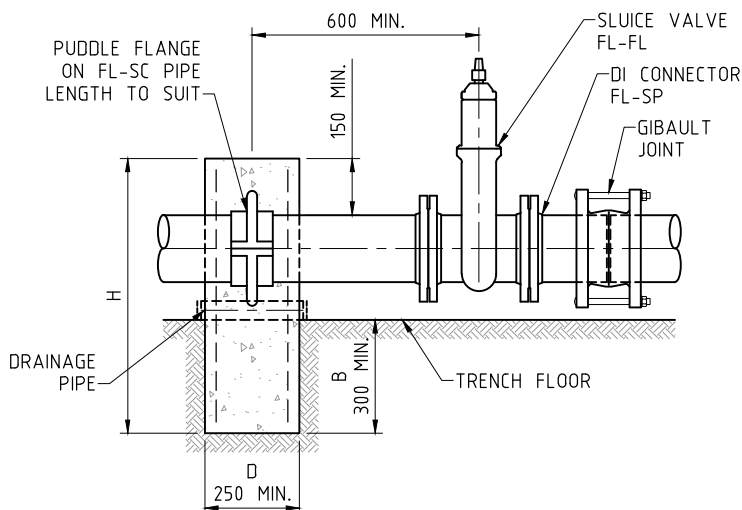


ELEVATION
THRUST BLOCK
SOCKETED STRAPPED VALVES <= DN375
 REFER NOTE 10.

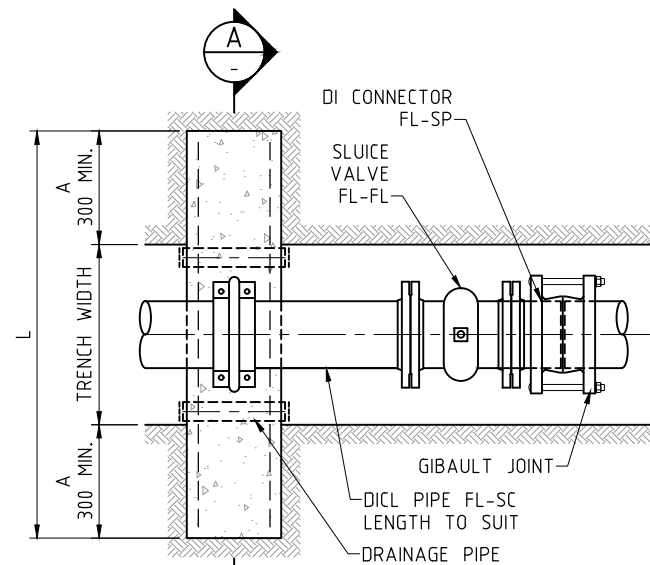


ELEVATION
THRUST BLOCK
"VIADUX" THRUST RESTRAINT SYSTEM
(DN100 OR DN150 ONLY)



ELEVATION

THRUST BLOCK
FLANGED VALVES



PLAN

THRUST BLOCK NOTES

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. POUR BASE CONCRETE AGAINST A SOLID EXCAVATION FACE.
3. USE GRADE N32 CONCRETE FOR REINFORCED THRUST BLOCKS. GRADE N20 FOR NON-REINFORCED.
4. REINFORCEMENT IS NOT NECESSARY FOR THRUST BLOCKS WHERE VALVES ARE <= DN150.
5. KEEP CONCRETE CLEAR OF ALL BOLTS, NUTS AND PIPE JOINTS.
6. THRUST BLOCK DIMENSIONS CAN BE INDIVIDUALLY ADJUSTED TO SUIT LOCATION. MINIMUM THRUST AREA MUST BE ACHIEVED. KEY INTO SIDES OF TRENCH TO REDUCE THRUST BLOCK DEPTH.
7. FOR VALVES LARGER THAN DN375 INDIVIDUAL DETAILED DESIGN IS REQUIRED. THE DESIGNER IS TO NOMINATE DIMENSIONS L, D, B, A, H AND H1 TO SUIT LOCATIONS.
8. IF THRUST BLOCK WIDTH "L" IS REQUIRED TO BE WITHIN THE ALLOCATED CORRIDOR, GENERALLY 800mm WIDE BEARING AREA IS TO BE PREDOMINANTLY BELOW THE BEDDING ZONE. IMPACTS OF WIDE BLOCKS ON ADJACENT SERVICES SHALL BE ADDRESSED.
9. THRUST AREA FOR DN100 AND DN150 FLANGED VALVES CAN BE LOCATED BELOW THE BEDDING ZONE (MIN. 300 INTO TRENCH WALL IS NOT REQUIRED). USE DIMENSION H1 x L1 FOR THRUST BLOCK SIZE.
10. SC-SC VALVES ARE PREFERRED FOR DN100 AND DN150.

MINIMUM BLOCK DIMENSIONS FOR THE ANCHORAGE OF THE IN-LINE THRUST

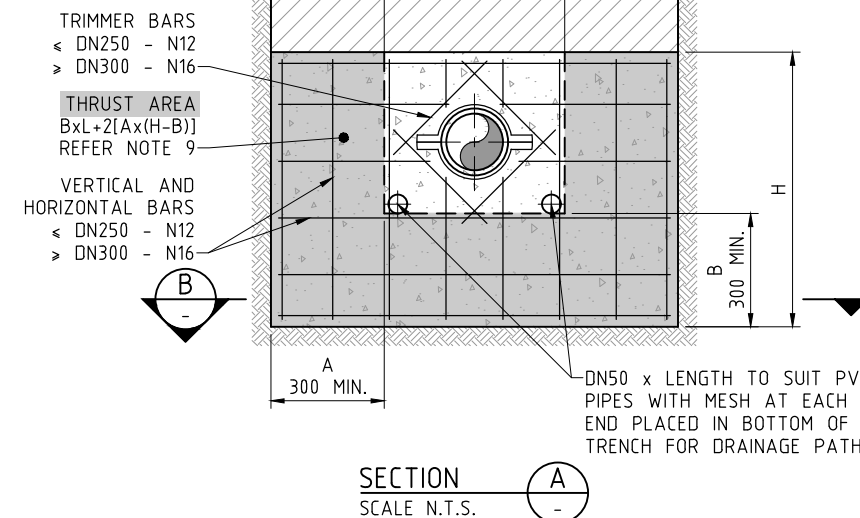
IN-LINE BLOCK FOR TEST PRESSURE OF 1200kPa SOIL ALLOWABLE HORIZONTAL BEARING PRESSURE IN kPa's OF 50, 100 AND 150 LISTED (SEE NOTES)

PIPE DN	DIMENSION	STIFF CLAY 50KPa	VERY STIFF CLAY SANDY LOAM 100KPa	SAND AND GRAVEL HARD CLAY 150KPa
		14.6kN THRUST		
MIN. THRUST BEARING AREA m ²		0.30	0.15	0.10
100	L	1000	1000	1000
	L1	500	400	400
	D	250	250	250
	B	300	300	300
	A	300	300	300
	H	700	700	700
	H1	600	400	300
MIN. THRUST BEARING AREA m ²		0.60	0.31	0.20
150	L	1050	1050	1050
	L1	600	550	450
	D	250	250	250
	B	300	300	300
	A	300	300	300
	H	800	750	750
	H1	1000	600	450
MIN. THRUST BEARING AREA m ²		1.02	0.51	0.34
200	L	1100	1100	1100
	L1	1050	550	500
	D	300	300	300
	B	600	300	300
	A	300	300	300
	H	1150	800	800
	H1	1000	1000	700

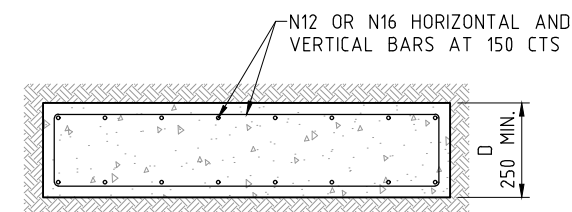
MINIMUM BLOCK DIMENSIONS FOR THE ANCHORAGE OF THE IN-LINE THRUST

IN-LINE BLOCK FOR TEST PRESSURE OF 1200kPa SOIL ALLOWABLE HORIZONTAL BEARING PRESSURE IN kPa's OF 50, 100 AND 150 LISTED (SEE NOTES)

PIPE DN	DIMENSION	STIFF CLAY 50KPa	VERY STIFF CLAY SANDY LOAM 100KPa	SAND AND GRAVEL HARD CLAY 150KPa
		64.7kN THRUST		
MIN. THRUST BEARING AREA m ²		1.30	0.65	0.43
225	L	1300	1150	1150
	L1	1200	650	650
	D	300	300	300
	B	600	300	300
	A	400	300	300
	H	1300	850	850
	H1	1100	1000	700
MIN. THRUST BEARING AREA m ²		1.56	0.78	0.52
250	L	1400	1200	1200
	L1	1250	780	650
	D	400	400	400
	B	700	400	300
	A	400	300	300
	H	1350	1000	900
	H1	1250	1000	850
MIN. THRUST BEARING AREA m ²		2.29	1.15	0.76
300	L	1650	1450	1250
	L1	1400	1150	850
	D	400	400	400
	B	900	450	300
	A	500	400	300
	H	1700	1100	950
	H1	1600	1000	900
MIN. THRUST BEARING AREA m ²		3.49	1.75	1.16
375	L	1700	1550	1450
	L1	1700	1350	1100
	D	500	500	500
	B	1500	700	450
	A	500	400	350
	H	2400	1600	1200
	H1	2050	1300	1050



SECTION A-A
 SCALE N.T.S.



SECTION B-B
 SCALE N.T.S.



DESIGN UNIT

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DESIGN ENGINEER	A.A.	DATE	NOV. 2021
W.W.U MANAGER	A.B.	DATE	NOV. 2021
DRAWN	INFRASTRUCTURE DELIVERY UNIT - DESIGN		
SCALE	NOT TO SCALE		

PROJECT:	WATER SUPPLY STANDARDS	DRAWING NUMBER:	S.D.305
DRAWING TITLE:	THRUST BLOCKS FOR VALVES AND INLINE THRUST WATER MAINS - TEST PRESSURE 1200kPa		
DATE:	NOV. 2021		