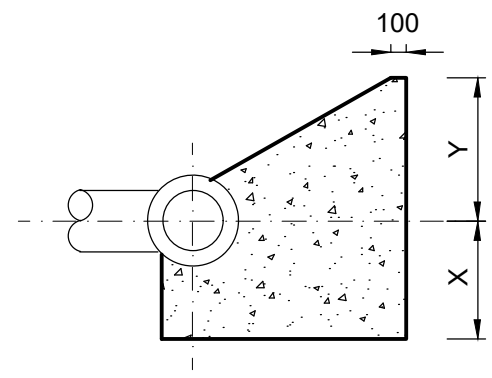
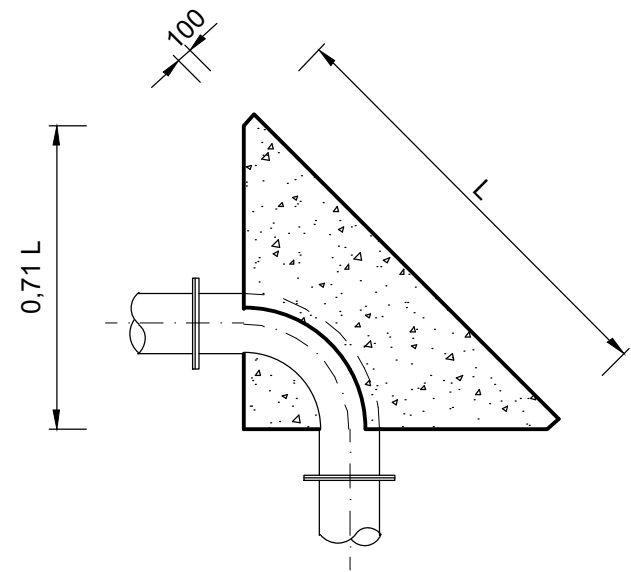


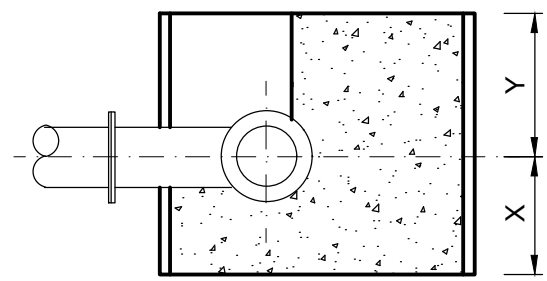
PLAN VIEW  
SCALE 1:20



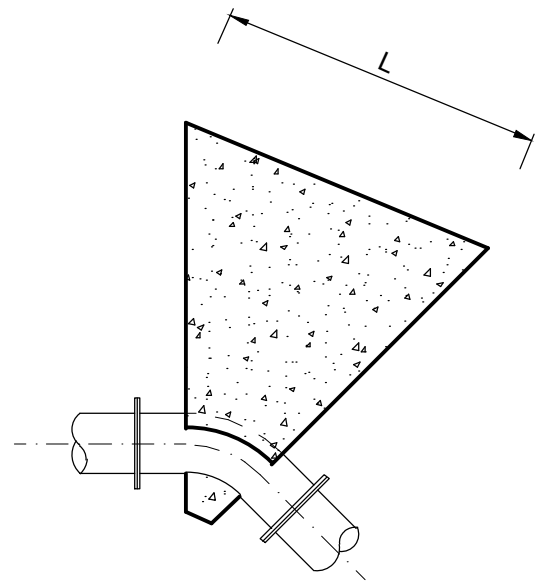
SECTION A - A  
90° TEE



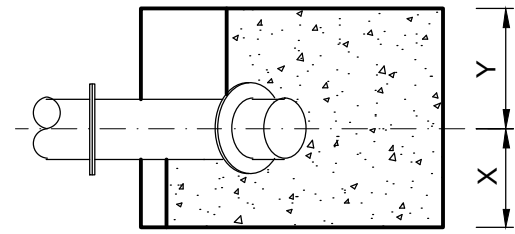
PLAN VIEW  
SCALE 1:20



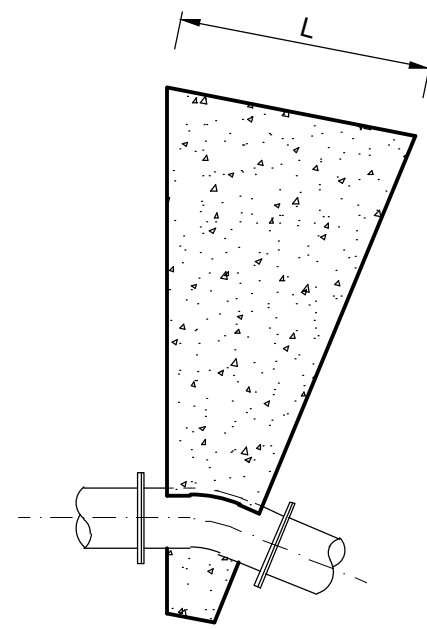
ELEVATION  
90° BEND



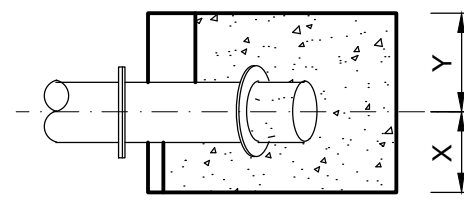
PLAN VIEW  
SCALE 1:20



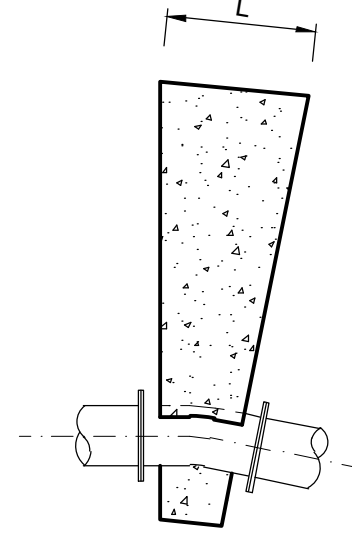
ELEVATION  
45° BEND



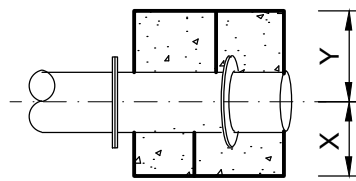
PLAN VIEW  
SCALE 1:20



ELEVATION  
22.5° BEND



PLAN VIEW  
SCALE 1:20



ELEVATION  
11.25° BEND

PRESSURE (MPa)		0.3				0.6				0.9				1.2				1.6				1.8				2.0				2.5			
		90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25				
DIAMETER		90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25	90	45	22.5	11.25				
50	L	0.528	0.427	0.358	0.351	0.567	0.430	0.325	0.268	0.568	0.572	0.437	0.364	0.710	0.511	0.545	0.454	0.700	0.649	0.461	0.348	0.774	0.539	0.539	0.383	0.847	0.589	0.559	0.418	1.032	0.717	0.487	0.510
	X	0.225	0.184	0.143	0.102	0.266	0.225	0.184	0.143	0.307	0.225	0.184	0.143	0.307	0.266	0.184	0.143	0.348	0.266	0.225	0.184	0.348	0.307	0.307	0.184	0.348	0.307	0.225	0.184	0.348	0.307	0.266	0.184
	Y	0.275	0.225	0.175	0.125	0.325	0.275	0.225	0.175	0.375	0.275	0.225	0.175	0.375	0.325	0.225	0.175	0.425	0.325	0.275	0.225	0.425	0.375	0.375	0.225	0.425	0.375	0.275	0.225	0.425	0.375	0.325	0.225
75	L	0.598	0.590	0.441	0.356	0.705	0.639	0.450	0.330	0.939	0.648	0.599	0.441	1.174	0.635	0.545	0.552	1.197	0.804	0.689	0.478	1.323	0.890	0.890	0.528	1.450	0.974	0.633	0.578	1.452	1.186	0.604	0.510
	X	0.317	0.235	0.194	0.153	0.358	0.276	0.235	0.194	0.358	0.317	0.235	0.194	0.358	0.358	0.276	0.194	0.399	0.358	0.276	0.235	0.399	0.358	0.358	0.235	0.399	0.358	0.317	0.235	0.440	0.358	0.358	0.276
	Y	0.388	0.287	0.237	0.187	0.438	0.337	0.287	0.237	0.438	0.388	0.287	0.237	0.438	0.438	0.337	0.237	0.488	0.438	0.337	0.287	0.488	0.438	0.438	0.287	0.488	0.438	0.338	0.287	0.538	0.438	0.438	0.337
90 - 110	L	0.789	0.706	0.489	0.354	1.183	0.641	0.540	0.529	1.278	0.854	0.550	0.491	1.321	1.067	0.689	0.615	1.672	1.352	0.689	0.572	1.553	1.210	1.210	0.633	1.701	1.325	0.834	0.697	1.764	1.334	1.016	0.646
	X	0.368	0.286	0.245	0.204	0.368	0.368	0.286	0.204	0.409	0.368	0.327	0.245	0.450	0.368	0.327	0.245	0.450	0.368	0.368	0.286	0.491	0.409	0.409	0.286	0.491	0.409	0.368	0.286	0.532	0.450	0.368	0.327
	Y	0.450	0.350	0.300	0.250	0.450	0.450	0.350	0.250	0.500	0.450	0.400	0.300	0.550	0.450	0.400	0.300	0.550	0.450	0.450	0.350	0.600	0.500	0.500	0.350	0.600	0.500	0.450	0.350	0.650	0.550	0.450	0.400
125	L	1.167	0.631	0.524	0.503	1.425	0.947	0.607	0.531	1.578	1.264	0.644	0.527	1.664	1.286	0.805	0.658	1.801	1.629	1.019	0.644	1.991	1.494	1.494	0.712	1.885	1.637	1.234	0.780	2.004	1.680	1.224	0.755
	X	0.378	0.378	0.297	0.215	0.419	0.378	0.337	0.256	0.460	0.378	0.378	0.297	0.501	0.419	0.378	0.297	0.542	0.419	0.378	0.337	0.542	0.460	0.460	0.337	0.583	0.460	0.378	0.337	0.624	0.501	0.419	0.378
	Y	0.462	0.462	0.362	0.262	0.513	0.462	0.412	0.312	0.563	0.462	0.462	0.362	0.613	0.513	0.462	0.362	0.663	0.513	0.462	0.412	0.663	0.563	0.563	0.412	0.713	0.563	0.462	0.412	0.763	0.613	0.513	0.462
150	L	1.304	0.862	0.706	0.472	1.631	1.293	0.659	0.532	1.840	1.412	0.879	0.708	1.972	1.471	1.099	0.689	2.166	1.577	1.392	0.699	2.095	1.743	1.743	0.773	2.294	1.909	1.379	0.847	2.465	1.993	1.400	1.031
	X	0.429	0.389	0.307	0.266	0.470	0.389	0.389	0.307	0.511	0.429	0.389	0.307	0.552	0.470	0.389	0.348	0.593	0.511	0.389	0.389	0.634	0.511	0.511	0.389	0.634	0.511	0.429	0.389	0.675	0.552	0.470	0.389
	Y	0.525	0.475	0.375	0.325	0.575	0.475	0.475	0.375	0.625	0.525	0.475	0.375	0.675	0.575	0.475	0.425	0.725	0.625	0.475	0.475	0.775	0.625	0.625	0.475	0.775	0.625	0.525	0.475	0.825	0.675	0.575	0.475
200	L	1.775	1.383	0.705	0.554	1.956	1.715	1.058	0.656	2.272	1.637	1.411	0.708	2.496	2.047	1.457	0.886	2.498	1.947	1.551	1.122	2.761	2.152	2.152	1.240	2.714	2.357	1.877	1.358	2.982	2.522	1.947	1.366
	X	0.491	0.409	0.409	0.327	0.573	0.450	0.409	0.368	0.614	0.532	0.409	0.409	0.654	0.532	0.450	0.409	0.736	0.614	0.491	0.409	0.736	0.614	0.614	0.409	0.777	0.614	0.491	0.409	0.818	0.654	0.532	0.450
	Y	0.600	0.500	0.500	0.400	0.700	0.550	0.500	0.450	0.750	0.650	0.500	0.500	0.800	0.650	0.550	0.500	0.900	0.750	0.600	0.500	0.900	0.750	0.750	0.500	0.950	0.750	0.600	0.500	1.000	0.800	0.650	0.550
250	L	1.900	1.634	1.000	0.766	2.201	1.779	1.499	0.753	2.608	2.056	1.667	1.004	2.917	2.249	1.763	1.255	3.010	2.514	1.915	1.590	3.024	2.470	2.470	1.465	3.312	2.706	2.009	1.605	3.375	2.653	2.141	1.653
	X	0.593	0.470	0.429	0.348	0.675	0.552	0.429	0.429	0.716	0.593	0.470	0.429	0.757	0.634	0.511	0.429	0.838	0.675	0.552	0.429	0.879	0.716	0.716	0.470	0.879	0.716	0.593	0.470	0.961	0.798	0.634	0.511
	Y	0.725	0.575	0.525	0.425	0.825	0.675	0.525	0.525	0.875	0.725	0.575	0.525	0.925	0.775	0.625	0.525	1.025	0.825	0.675	0.525	1.075	0.875	0.875	0.575	1.075	0.875	0.725	0.575	1.175	0.975	0.775	0.625
300	L	2.247	1.842	1.311	0.797	2.663	2.075	1.653	0.989	2.876	2.432	1.878	1.318	3.260	2.693	2.024	1.647	3.443	2.730	2.233	1.753	3.495	3.018	3.018	1.651	3.527	2.983	2.376	1.808	3.970	3.294	2.562	1.898
	X	0.654	0.532	0.450	0.409	0.736	0.614	0.491	0.450	0.818	0.654	0.532	0.450	0.859	0.695	0.573	0.450	0.941	0.777	0.614	0.491	0.982	0.777	0.777	0.532	1.023	0.818	0.654	0.532	1.063	0.859	0.695	0.573
	Y	0.800	0.650	0.550	0.500	0.900	0.750	0.600	0.550	1.000	0.800	0.650	0.550	1.050	0.850	0.700	0.550	1.150	0.950	0.750	0.600	1.200	0.950	0.950	0.650	1.250	1.000	0.800	0.650	1.300	1.050	0.850	0.700
350	L	2.556	2.015	1.633	0.820	3.088	2.334	1.777	1.231	3.387	2.767	2.055	1.641	3.544	2.785	2.247	1.736	3.812	3.192	2.512	1.885	3.902	3.208	3.208	2.084	3.968	3.208	2.704	1.978	4.498	3.580	2.650	2.108
	X	0.716	0.593	0.470	0.470	0.798	0.675	0.552	0.470	0.879	0.716	0.593	0.470	0.961	0.798	0.634	0.511	1.043	0.838	0.675	0.552	1.084	0.879	0.879	0.552	1.125	0.920	0.716	0.593	1.166	0.961	0.798	0.634
	Y	0.875	0.725	0.575	0.575	0.975	0.825	0.675	0.575	1.075	0.875	0.725	0.575	1.175	0.975	0.775	0.625	1.275	1.025	0.825	0.675	1.325	1.075	1.075	0.675	1.375	1.125	0.875	0.725	1.425	1.175	0.975	0.775
400	L	2.832	2.161	1.669	0.984	3.169	2.562	2.159	1.477	3.550	2.767	2.204	1.677	3.781	3.137	2.441	1.808	4.130	3.312	2.757	1.995	4.255	3.362	3.362	2.205	4.355	3.683	2.995	2.122	4.660	3.820	2.985	2.289
	X	0.777	0.654	0.532	0.491	0.900	0.736	0.573	0.491	0.982	0.818	0.654	0.532	1.063	0.859	0.695	0.573	1.145	0.941	0.736	0.613	1.186	0.982	0.982	0.613	1.227	0.982	0.777	0.654	1.309	1.063	0.859	0.695
	Y	0.950	0.800	0.650	0.600	1.100	0.900	0.700	0.600	1.200	1.000	0.800	0.650	1.300	1.050	0.850	0.700	1.400	1.150	0.900	0.750	1.450	1.200	1.200	0.750	1.500	1.200	0.950	0.800	1.600	1.300	1.050	0.850
450	L	3.079	2.572	1.959	1.148	3.515	2.763	2.229	1.722	3.980	3.030	2.623	1.969	4.278	3.458	2.608	2.133	4.405	3.695	2.973	2.364	4.565	3.770	3.770	2.306	4.999	3.823	3.257	2.526	5.074	4.322	3.291	2.733
	X	0.838	0.675	0.552	0.511	0.961	0.798	0.634	0.511	1.043	0.879	0.675	0.552	1.125	0.920	0.757	0.593	1.247	1.002	0.798	0.634	1.288	1.043	1.043	0.675	1.288	1.084	0.838	0.675	1.411	1.125	0.920	0.716
	Y	1.025	0.825	0.675	0.625	1.175	0.975	0.775	0.625	1.275	1.075	0.825	0.675	1.375	1.125	0.925	0.725	1.525	1.225	0.975	0.775	1.575	1.275	1.275	0.825	1.575	1.325	1.025	0.825	1.725	1.375	1.125	0.875
500	L	3.301	2.668	1.959	1.310	3.834	2.941	2.288	1.965	4.075	3.269	2.721	1.968	4.438	3.753	2.755	2.163	4.940	4.050	3.165	2.427	5.135	4.151	4.151	2.682	5.298	4.227	3.491	2.620	5.446	4.483	3.571	2.863
	X	0.900	0.736	0.614	0.532	1.023	0.859	0.695	0.532	1.145	0.941	0.736	0.614	1.227	0.982	0.818	0.654	1.309	1.063	0.859	0.695	1.350	1.104	1.104	0.695	1.391	1.145	0.900	0.736	1.513	1.227	0.982	0.777
	Y	1.100	0.900	0.750	0.650	1.250	1.050	0.850	0.6																								