

HOBAS GRP Fittings

HOBAS GRP Tees

DN.....Nominal Diameter
 L.....Length (mm)
 H.....Height (mm)

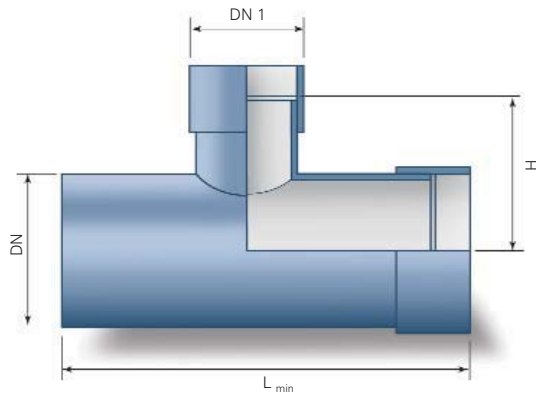


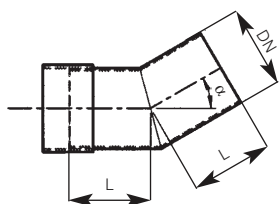
Fig. 3.11: HOBAS Tee

DN	DN 1	L _{min} mm	H mm
150	150	900	450
200	200	900	450
200	150	900	450
250	272	450	450
250	200	900	450
300	200	900	450
300	300	1000	500
350	250	1000	500
350	350	1100	550
400	300	1000	500
400	400	1200	600
500	350	1100	550
500	500	1300	650
600	400	1200	600
600	600	1400	700
700	700	1500	750
700	500	1500	650
800	800	1500	750
800	600	1500	650
900	900	2000	1000
900	700	2000	900
1000	1000	2000	1000
1000	800	2000	900
1100	1100	2000	1000
1100	900	2000	900

DN	DN 1	L _{min} mm	H mm
1200	1200	2000	1000
1200	1000	2000	900
1300	1200	2000	1150
1300	1300	2000	1150
1400	1400	3000	1500
1400	1100	3000	1350
1500	1500	3000	1500
1500	1200	3000	1350
1600	1600	3000	1500
1600	1400	3000	1400
1700	1700	3000	1500
1700	1400	3000	1400
1800	1800	3000	1500
1800	1500	3000	1400
2000	2000	3000	1500
2000	1500	3000	1400
2200	2200	3000	1800
2200	1600	3000	1500
2400	2400	3500	2000
2400	1800	3500	1700
2700	2700	3500	2200
2700	2200	3500	2000
2900	2900	3500	2400
2900	2200	3500	2100

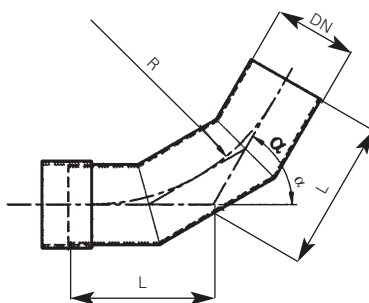
Table 3.7, part 2: HOBAS Fittings continued

HOBAS GRP Bends, PN 1



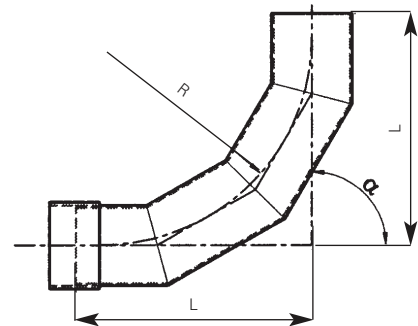
$\alpha = 0 - 30^\circ$

Fig. 3.12: HOBAS Bends I



$\alpha = 31 - 60^\circ$

Fig. 3.13: HOBAS Bends II



$\alpha = 61 - 90^\circ$

Fig. 3.14: HOBAS Bends III

DN.....Nominal Diameter	L.....Length (mm)	R.....Radius (mm)
αAngle	ODP.....Outside Diameter Pipe (mm)	

DN	ODP mm	R mm	$\alpha = 11.25^\circ$ L/mm	$\alpha = 22.5^\circ$ L/mm	$\alpha = 30^\circ$ L/mm	$\alpha = 45^\circ$ L/mm	$\alpha = 60^\circ$ L/mm	$\alpha = 90^\circ$ L/mm
150	168	225	275	300	300	325	375	500
200	220	300	275	300	300	350	400	525
250	272	375	275	300	300	375	425	575
300	324	450	275	300	325	400	450	650
350	376	525	275	300	325	425	500	700
400 ¹⁾	401	600	325	350	375	475	550	800
400	427	600	325	350	375	475	550	800
500 ¹⁾	501	750	325	375	400	525	625	950
500	530	750	325	375	400	525	625	950
600	616	900	325	400	450	600	700	1075
700	718	1050	400	425	475	650	775	1200
800	820	1170	400	450	525	700	850	1350
900	924	1200	400	475	550	725	875	1400
1000	1026	1270	425	500	575	750	925	1450
1100 ¹⁾	1099	1320	450	500	600	800	975	1525
1200	1229	1370	475	525	600	825	1025	1600
1350 ¹⁾	1350	1420	500	575	675	900	1100	1700
1400	1434	1450	500	575	675	900	1100	1700
1500 ¹⁾	1499	1560	550	625	750	1000	1200	1850
1600	1638	1670	600	675	800	1100	1300	2000
1700	1720	1770	650	725	825	1150	1350	2100
1800	1838	1870	675	775	850	1200	1400	2200
2000	2046	2070	700	800	900	1300	1500	2400
2200	2250	2270	775	875	950	1400	1600	2600
2400 ¹⁾	2400	2470	800	900	1000	1500	1700	2800

Table 3.8: HOBAS Bends

¹⁾ Available on request.

Pressure classes depending on bending angle on request.

All the figures quoted are general calculations and may vary due to manufacturing tolerances.

HOBAS GRP Wye Junctions, PN 1 (Non Pressure Pipe Systems)

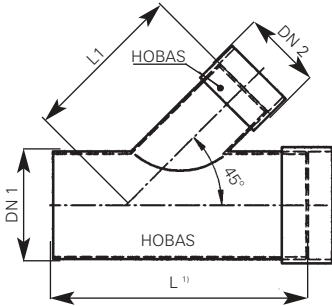


Fig. 3.15: HOBAS Wye Junction I

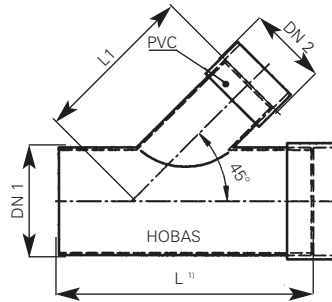


Fig. 3.16: HOBAS Wye Junction II

Wye junctions are used to connect HOBAS CC-GRP or PVC supply lines (other materials on request) to the main HOBAS CC-GRP Pipe System. Both the main body and the branch are fitted with couplings. If the branch pipe is made of PVC, the end of the wye branch is fitted with a suitable socket (alternatively, a Straub/Flex Seal coupling system may be used).

DN.....Nominal Diameter
L.....Length (mm)

DN 2 \ DN 1	150	200	250	300	350	400	500	600	700	800	900	1000	1100	1200
	L1 ± 10 mm													
150	650	-	-	-	-	-	-	-	-	-	-	-	-	-
200	650	850	-	-	-	-	-	-	-	-	-	-	-	-
250	650	850	1000	-	-	-	-	-	-	-	-	-	-	-
300	650	850	1000	1000	-	-	-	-	-	-	-	-	-	-
350	650	850	1000	1000	1000	-	-	-	-	-	-	-	-	-
400	650	850	1000	1000	1000	1200	-	-	-	-	-	-	-	-
500	650	850	1000	1000	1000	1200	1500	-	-	-	-	-	-	-
600 ²⁾	650	850	1000	1000	1000	1200	1500	1750	-	-	-	-	-	-
700 ²⁾	1000	1000	1000	1000	1000	1200	1500	1750	1750	-	-	-	-	-
800 ²⁾	1000	1000	1000	1000	1000	1200	1500	1750	1750	2000	-	-	-	-
900 ²⁾	1000	1000	1000	1000	1000	1200	1500	1750	1750	2000	2500	-	-	-
1000 ²⁾	1000	1000	1000	1000	1000	1200	1500	1750	1750	2000	2500	2500	-	-
1100 ²⁾	1200	1200	1200	1200	1200	1200	1500	1750	1750	2000	2500	2500	2500	-
1200 ²⁾	1200	1200	1200	1200	1200	1200	1500	1750	1750	2000	2500	2500	2500	3000

Table 3.9: HOBAS Wye Junctions

¹⁾ Length according to DIN 19565 Part 1.

²⁾ HOBAS Company Standard.

Other diameters and pressure classes upon request.

All the figures quoted are general calculations and may vary due to manufacturing tolerances.

HOBAS GRP Flange Connectors

DN.....Nominal Diameter
 ODP.....Outside Diameter Pipe (mm)
 L.....Length (mm)
 k.....Hole Circle Diameter (mm)
 ODF.....Outside Diameter Flange (mm)

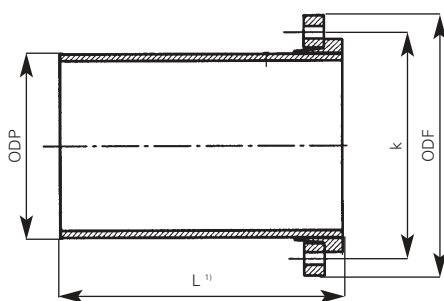


Fig. 3.17: Loose collar flange connector

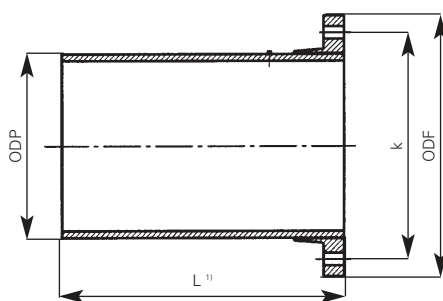


Fig. 3.18: Fixed collar flange connector

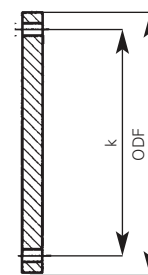


Fig. 3.19: Blank flange

Collar Flanges are made from either galvanized steel or GRP. The Flange Drilling complies with DIN 2501 sheet 1, for class PN 10, (flanges, connection dimensions). The nominal pressure class required must be indicated on the order.

The HOBAS GRP flanged connector consists of a piece of pipe of the same pressure class as the pipeline with a flange collar bonded to it. The Flange Drilling complies with DIN 2501 sheet 1, for class PN 10 (flanges, connection dimensions). The nominal pressure class required must be indicated on the order.

Blank Flanges can be supplied in either GRP or galvanized steel. The flange drilling complies with DIN 2501 sheet 1, for class PN 10 (flanges, connection dimensions). The nominal pressure class required must be indicated on the order.

DN	ODP mm	Bolts	k mm	ODF mm
150	168	8xM20	240	285
200	220	8xM20	295	340
250	272	12xM20	350	405
300	324	12xM20	400	460
350	376	16xM20	460	520
400	427	16xM24	515	505
500	530	20xM24	620	715
600	616	20xM27	725	840

Table 3.10: HOBAS Flange Connectors

¹⁾ Length according to company standard.

All the figures quoted are general calculations and may vary due to manufacturing tolerances.

Tapers

DN.....Nominal Diameter
 L_{min}Length (mm)

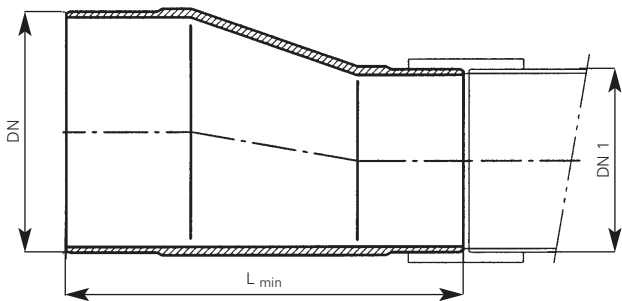


Fig. 3.20: Level invert tapers are used for transition from one diameter to another without changing the bottom level of the pipeline.

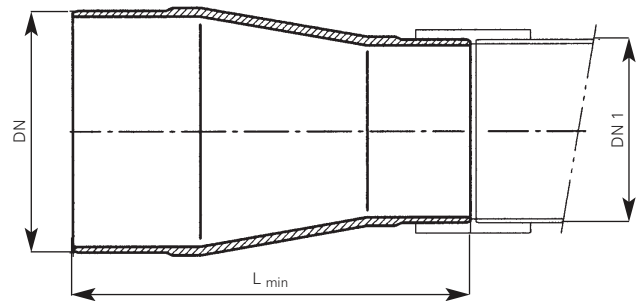


Fig. 3.21: Concentric tapers are used for transition from one diameter to another. A concentric taper raises the bottom level of the pipeline. Its main application is in pressure pipelines.

DN	DN 1	L_{min} mm	DN 1	L_{min} mm	DN 1	L_{min} mm
200	150	750	–	–	–	–
250	200	750	150	900	–	–
300	250	750	200	900	150	1050
350	300	750	250	900	200	1050
400	350	750	300	900	250	1050
500	400	950	350	1100	300	1200
600	500	950	400	1250	350	1400
700	600	1000	500	1250	400	1550
800	700	1000	600	1300	500	1600
900	800	1000	700	1300	600	1600
1000	900	1050	800	1350	700	1600
1100 ²⁾	1000	1050	900	1350	800	1650
1200	1100	1100	1000	1400	900	1650
1350 ¹⁾	1200	1200	1100	1550	1000	1800
1400	1200	1400	1100	1700	1000	2000
1500 ²⁾	1400	1500	1200	1750	1100	2000
1600	1500	1600	1400	1800	1200	2050
1700	1600	1700	1500	1800	1400	2050
1800	1600	1700	1500	1850	1400	2100
2000	1800	1800	1600	1900	1500	2400
2200	2000	2000	–	–	–	–
2400 ²⁾	2200	2200	–	–	–	–

Table 3.11: HOBAS Tapers

¹⁾ HOBAS Company Standard.

²⁾ Available on request.