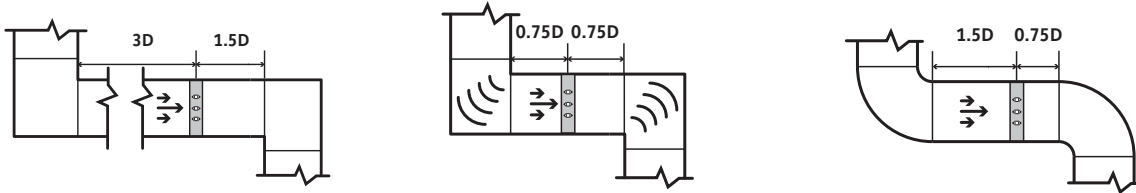


AD-1272 Advanced Thermal Dispersion Probe Airflow Measuring System Placements for Minimum Installations Application Note

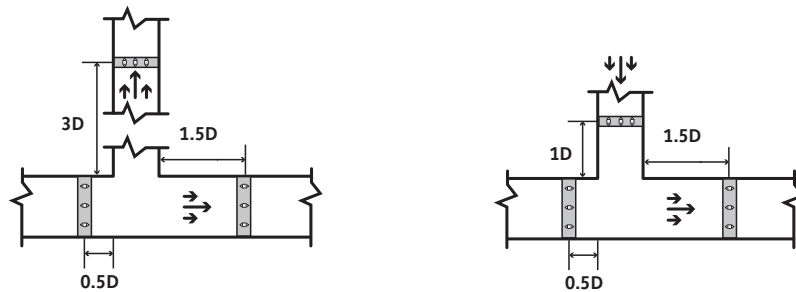
To determine the placement of an AD-1272 Advanced Thermal Dispersion Probe Airflow Measuring System in a rectangular or oval duct, see the 1D equivalency tables below to calculate the distance value. For round ducts, D is equivalent to the duct diameter. For rectangular ducts, D is calculated using the following formula:

$$D = \sqrt{(4 \times \text{Height} \times \text{Width}) / 3.1416}$$

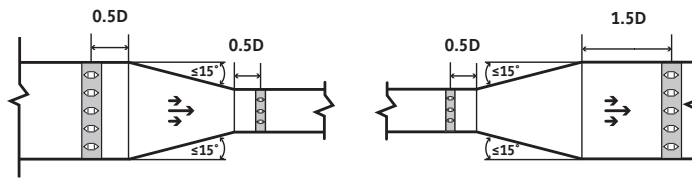
Elbow Minimum Distance (Unvaned, Vaned, and Sweep)



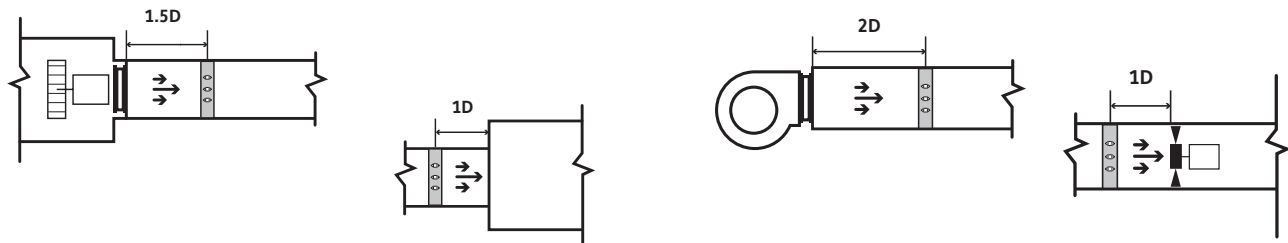
“T” Fitting Minimum Distances (Supply and Return)



Transition Minimum Distances

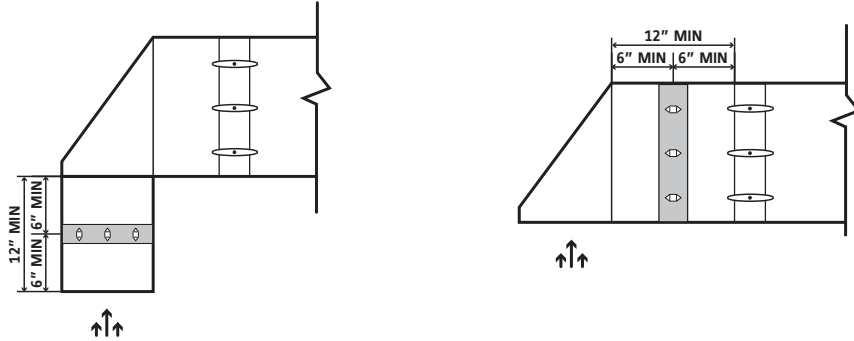


Fan Minimum Distances (Supply, Return, Discharge, and Intake)

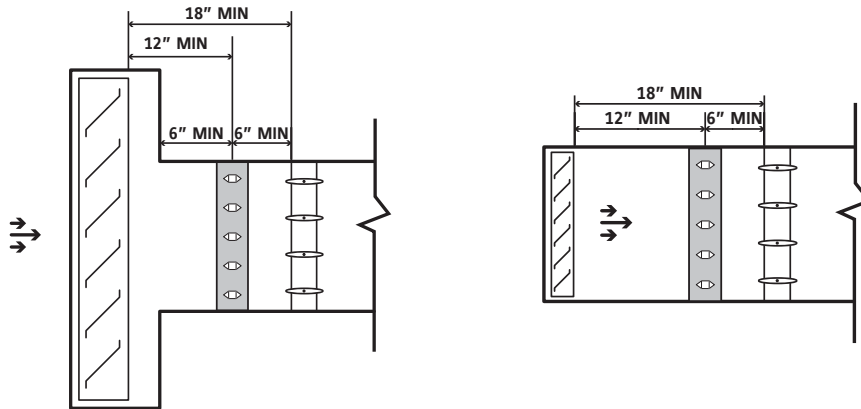


AD-1272 Advanced Thermal Dispersion Probe Airflow Measuring System Placements

Intake Hood Minimum Distances



Fixed Louver Minimum Distances



Note: When installing probes in an uncontrolled environment, it is recommended that the display be installed in a temperature controlled environment.

AD-1272 Advanced Thermal Dispersion Probe Airflow Measuring System Placements

1D Equivalency Chart, 6 to 32 in. (152 to 813 mm) Duct Width^{1,2}

		Duct Width, in.(mm)													
		6 (152)	8 (203)	10 (254)	12 (305)	14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)	32 (813)
Duct Height, in. (mm)	6 (152)	6.8 (173)	7.8 (198)	8.7 (221)	9.6 (244)	10 (254)	11 (279)	12 (305)	12 (305)	13 (330)	14 (356)	14 (356)	15 (381)	15 (381)	16 (406)
	8 (203)	7.8 (198)	9 (229)	10 (254)	11 (279)	12 (305)	13 (330)	14 (356)	14 (356)	15 (381)	16 (406)	16 (406)	17 (432)	17 (432)	18 (457)
	10 (254)	8.7 (221)	10 (254)	11 (279)	12 (305)	13 (330)	14 (356)	15 (381)	16 (406)	17 (432)	17 (432)	18 (457)	19 (483)	20 (508)	20 (508)
	12 (305)	9.6 (244)	11 (279)	12 (305)	14 (356)	15 (381)	16 (406)	17 (432)	17 (432)	18 (457)	19 (483)	20 (508)	21 (533)	21 (533)	22 (559)
	14 (356)	10 (254)	12 (305)	13 (330)	15 (381)	16 (406)	17 (432)	18 (457)	19 (483)	20 (508)	21 (533)	22 (559)	22 (559)	23 (584)	24 (610)
	16 (406)	11 (279)	13 (330)	14 (356)	16 (406)	17 (432)	18 (457)	19 (483)	20 (508)	21 (533)	22 (559)	23 (584)	24 (610)	25 (635)	26 (660)
	18 (457)	12 (305)	14 (356)	15 (381)	17 (432)	18 (457)	19 (483)	20 (508)	21 (533)	22 (559)	23 (584)	24 (610)	25 (635)	26 (660)	27 (686)
	20 (508)	12 (305)	14 (356)	16 (406)	17 (432)	19 (483)	20 (508)	21 (533)	23 (584)	24 (610)	25 (635)	26 (660)	27 (686)	28 (711)	29 (737)
	22 (559)	13 (330)	15 (381)	17 (432)	18 (457)	20 (508)	21 (533)	22 (559)	24 (610)	25 (635)	26 (660)	27 (686)	28 (711)	29 (737)	31 (787)
	24 (610)	14 (356)	16 (406)	17 (432)	19 (483)	21 (533)	22 (559)	23 (584)	25 (635)	26 (660)	27 (686)	28 (711)	29 (737)	30 (762)	31 (787)
	26 (660)	14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	23 (584)	24 (610)	26 (660)	27 (686)	28 (711)	29 (737)	30 (762)	32 (813)	33 (838)
	28 (711)	15 (381)	17 (432)	19 (483)	21 (533)	22 (559)	24 (610)	25 (635)	27 (686)	28 (711)	29 (737)	30 (762)	32 (813)	33 (838)	34 (864)
	30 (762)	15 (381)	17 (432)	20 (508)	21 (533)	23 (584)	25 (635)	26 (660)	28 (711)	29 (737)	30 (762)	32 (813)	33 (838)	34 (864)	35 (889)
	32 (813)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)	26 (660)	27 (686)	29 (737)	30 (762)	31 (787)	33 (838)	34 (864)	35 (889)	36 (914)
	34 (864)	16 (406)	19 (483)	21 (533)	23 (584)	24 (610)	26 (660)	28 (711)	29 (737)	31 (787)	32 (813)	34 (864)	35 (889)	36 (914)	37 (940)
	36 (914)	17 (432)	19 (483)	21 (533)	23 (584)	25 (635)	27 (686)	29 (737)	30 (762)	32 (813)	33 (838)	35 (889)	36 (914)	37 (940)	38 (965)
	38 (965)	17 (432)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)	31 (787)	33 (838)	34 (864)	35 (889)	37 (940)	38 (965)	39 (991)
	40 (1,016)	17 (432)	20 (508)	23 (584)	25 (635)	27 (686)	29 (737)	30 (762)	32 (813)	33 (838)	35 (889)	36 (914)	38 (965)	39 (991)	40 (1,016)
	36 (914)	18 (457)	21 (533)	23 (584)	25 (635)	27 (686)	29 (737)	31 (787)	33 (838)	34 (864)	36 (914)	37 (940)	39 (991)	40 (1,016)	41 (1,041)
	44 (1,118)	18 (457)	21 (533)	24 (610)	26 (660)	28 (711)	30 (762)	32 (813)	33 (838)	35 (889)	37 (940)	38 (965)	40 (1,016)	41 (1,041)	42 (1,067)
46 (1,168)	19 (483)	22 (559)	24 (610)	27 (686)	29 (737)	31 (787)	32 (813)	34 (864)	36 (914)	37 (940)	39 (991)	40 (1,016)	42 (1,067)	43 (1,092)	
48 (1,219)	19 (483)	22 (559)	25 (635)	27 (686)	29 (737)	31 (787)	33 (838)	35 (889)	37 (940)	38 (965)	41 (1,041)	41 (1,041)	43 (1,092)	44 (1,118)	
50 (1,270)	20 (508)	23 (584)	25 (635)	28 (711)	30 (762)	32 (813)	24 (610)	26 (660)	27 (686)	29 (737)	41 (1,041)	42 (1,067)	44 (1,118)	45 (1,143)	
52 (1,321)	20 (508)	23 (584)	26 (660)	28 (711)	30 (762)	33 (838)	35 (889)	36 (914)	38 (965)	40 (1,016)	41 (1,041)	43 (1,092)	45 (1,143)	46 (1,168)	
54 (1,372)	20 (508)	23 (584)	26 (660)	29 (737)	31 (787)	33 (838)	35 (889)	37 (940)	39 (991)	41 (1,041)	42 (1,067)	44 (1,118)	45 (1,143)	47 (1,194)	
56 (1,422)	21 (533)	24 (610)	27 (686)	29 (737)	32 (813)	34 (864)	36 (914)	38 (965)	40 (1,016)	41 (1,041)	43 (1,092)	45 (1,143)	46 (1,168)	48 (1,219)	
58 (1,473)	21 (533)	24 (610)	27 (686)	30 (762)	32 (813)	34 (864)	36 (914)	38 (965)	40 (1,016)	41 (1,041)	44 (1,118)	45 (1,143)	47 (1,194)	49 (1,245)	
60 (1,524)	21 (533)	25 (635)	28 (711)	30 (762)	33 (838)	35 (889)	37 (940)	39 (991)	41 (1,041)	43 (1,092)	45 (1,143)	46 (1,168)	48 (1,219)	49 (1,245)	

- For round ducts, D is equal to the duct diameter.
- For rectangular ducts, D is equal to $(\sqrt{4 \times \text{height} \times \text{width}}) / 3.1416$

AD-1272 Advanced Thermal Dispersion Probe Airflow Measuring System Placements

1D Equivalency Chart, 34 to 60 in. (864 to 1,524 mm) Duct Width^{1,2}

		Duct Width, in. (mm)													
		34 (864)	36 (914)	38 (965)	40 (1,016)	42 (1,067)	44 (1,118)	46 (1,168)	48 (1,219)	50 (1,270)	52 (1,321)	54 (1,372)	56 (1,422)	58 (1,473)	60 (1,524)
Duct Height, in. (mm)	6 (152)	16 (406)	17 (432)	17 (432)	17 (432)	18 (457)	18 (457)	19 (483)	19 (483)	20 (508)	20 (508)	20 (508)	21 (533)	21 (533)	21 (533)
	8 (203)	19 (483)	19 (483)	20 (508)	20 (508)	21 (533)	21 (533)	22 (559)	22 (559)	23 (584)	23 (584)	23 (584)	24 (610)	24 (610)	25 (635)
	10 (254)	21 (533)	21 (533)	22 (559)	23 (584)	23 (584)	24 (610)	24 (610)	25 (635)	25 (635)	26 (660)	26 (660)	27 (686)	27 (686)	28 (711)
	12 (305)	23 (584)	23 (584)	24 (610)	25 (635)	25 (635)	26 (660)	27 (686)	27 (686)	28 (711)	28 (711)	29 (737)	29 (737)	30 (762)	30 (762)
	14 (356)	25 (635)	25 (635)	26 (660)	27 (686)	27 (686)	28 (711)	29 (737)	29 (737)	30 (762)	30 (762)	31 (787)	32 (813)	32 (813)	33 (838)
	16 (406)	26 (660)	27 (686)	28 (711)	29 (737)	29 (737)	30 (762)	31 (787)	31 (787)	32 (813)	33 (838)	33 (838)	34 (864)	34 (864)	35 (889)
	18 (457)	28 (711)	29 (737)	30 (762)	30 (762)	31 (787)	32 (813)	32 (813)	33 (838)	34 (864)	35 (889)	35 (889)	36 (914)	36 (914)	37 (940)
	20 (508)	29 (737)	30 (762)	31 (787)	32 (813)	33 (838)	33 (838)	34 (864)	35 (889)	36 (914)	36 (914)	37 (940)	38 (965)	38 (965)	39 (991)
	22 (559)	31 (787)	32 (813)	33 (838)	33 (838)	34 (864)	35 (889)	36 (914)	37 (940)	37 (940)	38 (965)	39 (991)	40 (1,016)	40 (1,016)	41 (1,041)
	24 (610)	32 (813)	33 (838)	34 (864)	35 (889)	36 (914)	37 (940)	37 (940)	38 (965)	39 (991)	40 (1,016)	41 (1,041)	41 (1,041)	42 (1,067)	43 (1,092)
	26 (660)	34 (864)	35 (889)	35 (889)	36 (914)	37 (940)	38 (965)	39 (991)	40 (1,016)	41 (1,041)	41 (1,041)	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)
	28 (711)	35 (889)	36 (914)	37 (940)	38 (965)	39 (991)	40 (1,016)	40 (1,016)	41 (1,041)	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)	45 (1,143)	46 (1,168)
	30 (762)	36 (914)	37 (940)	38 (965)	39 (991)	40 (1,016)	41 (1,041)	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)	45 (1,143)	46 (1,168)	47 (1,194)	48 (1,219)
	32 (813)	37 (940)	38 (965)	39 (991)	40 (1,016)	41 (1,041)	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)	46 (1,168)	47 (1,194)	48 (1,219)	49 (1,245)	49 (1,245)
	34 (864)	38 (965)	39 (991)	41 (1,041)	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)	46 (1,168)	47 (1,194)	47 (1,194)	48 (1,219)	49 (1,245)	50 (1,270)	51 (1,295)
	36 (914)	39 (991)	41 (1,041)	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)	46 (1,168)	47 (1,194)	48 (1,219)	49 (1,245)	50 (1,270)	51 (1,295)	52 (1,321)	52 (1,321)
	38 (965)	41 (1,041)	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)	46 (1,168)	47 (1,194)	48 (1,219)	49 (1,245)	50 (1,270)	51 (1,295)	52 (1,321)	53 (1,346)	54 (1,372)
	40 (1,016)	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)	46 (1,168)	47 (1,194)	48 (1,219)	49 (1,245)	50 (1,270)	51 (1,295)	52 (1,321)	53 (1,346)	54 (1,372)	55 (1,397)
	42 (1,067)	43 (1,092)	44 (1,118)	45 (1,143)	46 (1,168)	47 (1,194)	49 (1,245)	50 (1,270)	51 (1,295)	52 (1,321)	53 (1,346)	54 (1,372)	55 (1,397)	56 (1,422)	57 (1,448)
	44 (1,118)	44 (1,118)	45 (1,143)	46 (1,168)	47 (1,194)	49 (1,245)	50 (1,270)	51 (1,295)	52 (1,321)	53 (1,346)	54 (1,372)	55 (1,397)	56 (1,422)	57 (1,448)	58 (1,473)
46 (1,168)	45 (1,143)	46 (1,168)	47 (1,194)	48 (1,219)	50 (1,270)	51 (1,295)	52 (1,321)	53 (1,346)	54 (1,372)	55 (1,397)	56 (1,422)	57 (1,448)	58 (1,473)	59 (1,499)	
48 (1,219)	46 (1,168)	47 (1,194)	48 (1,219)	49 (1,245)	51 (1,295)	52 (1,321)	53 (1,346)	54 (1,372)	55 (1,397)	56 (1,422)	57 (1,448)	59 (1,499)	60 (1,524)	61 (1,549)	
50 (1,270)	47 (1,194)	48 (1,219)	49 (1,245)	50 (1,270)	52 (1,321)	53 (1,346)	54 (1,372)	55 (1,397)	56 (1,422)	58 (1,473)	59 (1,499)	60 (1,524)	61 (1,549)	62 (1,575)	
52 (1,321)	47 (1,194)	49 (1,245)	50 (1,270)	51 (1,295)	53 (1,346)	54 (1,372)	55 (1,397)	56 (1,422)	58 (1,473)	59 (1,499)	60 (1,524)	61 (1,549)	62 (1,575)	63 (1,600)	
54 (1,372)	48 (1,219)	50 (1,270)	51 (1,295)	52 (1,321)	54 (1,372)	55 (1,397)	56 (1,422)	57 (1,448)	59 (1,499)	60 (1,524)	61 (1,549)	62 (1,575)	63 (1,600)	64 (1,626)	
56 (1,422)	49 (1,245)	51 (1,295)	52 (1,321)	53 (1,346)	55 (1,397)	56 (1,422)	57 (1,448)	59 (1,499)	60 (1,524)	61 (1,549)	62 (1,575)	63 (1,600)	64 (1,626)	65 (1,651)	
58 (1,473)	50 (1,270)	52 (1,321)	53 (1,346)	54 (1,372)	56 (1,422)	57 (1,448)	58 (1,473)	60 (1,524)	61 (1,549)	62 (1,575)	63 (1,600)	64 (1,626)	65 (1,651)	67 (1,702)	
60 (1,524)	51 (1,295)	52 (1,321)	54 (1,372)	55 (1,397)	57 (1,448)	58 (1,473)	59 (1,499)	61 (1,549)	62 (1,575)	63 (1,600)	64 (1,626)	65 (1,651)	67 (1,702)	68 (1,727)	

1. For round ducts, D is equal to the duct diameter.
2. For rectangular ducts, D is equal to $(\sqrt{4 \times \text{height} \times \text{width}}) / 3.1416$