

BAAS COMPONENT AS

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CURVES AND TABLES FOR MEASURING SENSORS

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		DATO: 29.7.96	REV.NR.: 1
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CURVES AND TABLES FOR MEASURING SENSORS

k-VALUE FOR CIRCULAR MEASURING UNITS WITH MEASURING CROSS.

DUCT DIAM. mm	AREA m ²	k-VALUE
160	0,02	0,62
200	0,0314	0,69
250	0,049	0,75
315	0,0779	0,78
400	0,1256	0,795
500	0,1963	0,75
630	0,3116	0,78
800	0,5024	0,795
1000	0,785	0,8
1250	1,227	0,805

AIR SPEED	$k\text{-VALUE} * \sqrt{pd}$	m/s
AIR VOLUME	$AREA * k\text{-VALUE} * \sqrt{pd}$	m ³ /s

FOR OTHER DIMENSIONS SEE PAGE 4 AND 5

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CURVES AND TABLES FOR MEASURING SENSORS

k-VALUE FOR MEASURING PROBES IN CIRCULAR DUCTS.

DUCT				
DIAM. mm	AREA m2	k-VALUE 1 PROBE	k-VALUE 2 PROBES	k-VALUE 3 PROBES
160	0,02	0,778		
200	0,0314	0,792		
250	0,049	0,798		
315	0,0779	0,805		
400	0,1256	0,807	0,793	
500	0,1963	0,81	0,8	
630	0,3116	0,812	0,805	
800	0,5024	0,814	0,806	
1000	0,785	0,814	0,81	0,805
1250	1,227	0,815	0,812	0,807

AIR SPEED =	k-VALUE * \sqrt{pd}	m/s
AIR VOLUME =	AREA * k-VALUE * \sqrt{pd}	m3/s

FOR OTHER DIMENSIONS SEE PAGE 4 AND 5

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CURVES AND TABLES FOR MEASURING SENSORS

k-VALUE FOR RECTANGULAR MEASURING STATIONS WITH MEASURING CROSS.

	WIDTH	mm						
HEIGHT	200	300	400	500	600	800	1000	1200
200	0,755	0,775	0,78					
300		0,79	0,795	0,785				
400			0,8	0,74	0,75	0,8		
500				0,76	0,77	0,74	0,76	
600					0,775	0,785	0,77	0,775
800						0,795	0,795	0,795
1000							0,8	0,8
1200								0,805

OTHER k-VALUES ARE CALCULATED ACCORDING TO THE FORMULAS BELOW
 THE PROFILES IN THE MEASURING STATION REDUCE THE AREA OF THE DUCT.
 WHEN THE CALCULATED REDUCTION IN % IS FOUND THE k-VALUE IS FOUND
 IN THE CURVE ON PAGE 5. PROFILE WIDTH = 20 mm, AND THE NUMBERS
 ARE FOUND IN THE DRAWINGS.

WHERE THE WIDTH/HEIGHT RATIO EXCEED 1 : 1,5 THE AREA IS DEVIDED
 IN 2-3 OR 4 SECTIONS TO REDUCE THE RATIO.

SECTIONS WITH ONE SIDE ABOVE 450 mm WILL HAVE A CROSS WITH
 8 ARMS. MAXIMUM SECTION LENGTH 1200 mm.

FORMULA:
$$\frac{\text{AREA OF THE CROSS(PROFILES) IN m}^2}{\text{DUCT AREA UIN m}^2} = \text{REDUCTION OF THE AIR DUCT IN \%}$$

AIR SPEED =	k-VALUE	*	\sqrt{pd}		m/s
AIR VOLUME =	AREA * k-VALUE	*	\sqrt{pd}		m3/s

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CURVES AND TABLES FOR MEASURING SENSORS

K-VALUE CURVE BASED ON THE REDUCTION OF THE AIR DUCT AREA IN % CAUSED BY THE MEASURING CROSS.

