Technical Data mass flow measurement grid

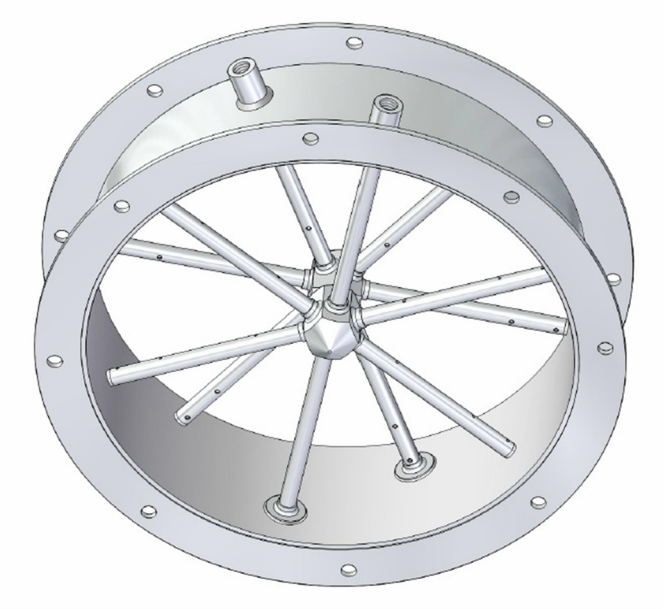


Fig. 1 Example of mass flow measurement grid in circular design with flange

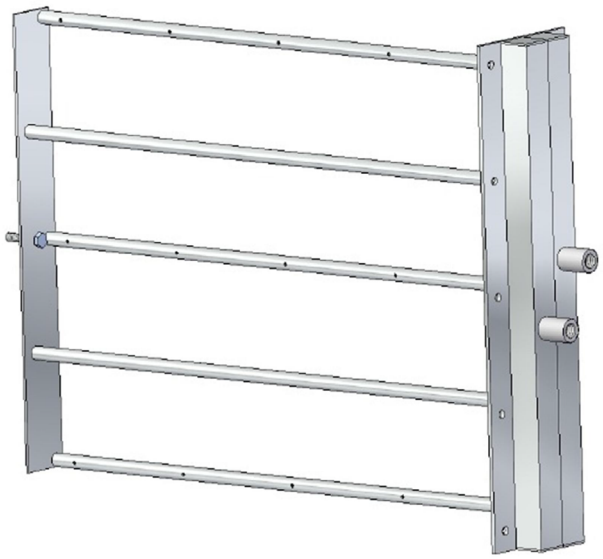


Fig. 2 Example of mass flow measurement grid in rectangular design with flange

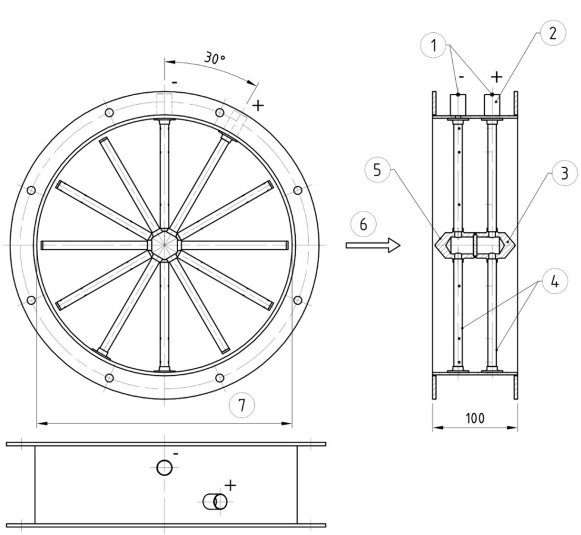


Fig. 3 Dimensional drawing of circular version (front/side view)

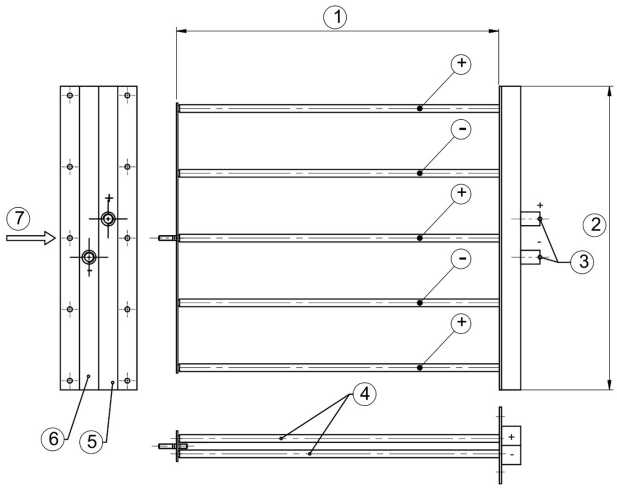


Fig. 4 Dimensional drawing of rectangular version (front/side view)

1 welding sleeve G1/4"
2 connecting pipe
3 collector +
4 measuring tube
5 collector -
6 direction of flow
7 nominal diameter (internal diameter)

1 air duct width
2 air duct height
3 welded cutting ring fitting G1/4"
4 measuring tube
5 collector +
6 collector -
7 direction of current

Technical Data mass flow measurement grid

Design	
Circular design	inside duct L = 100 mm / 3.94" in wall thickness from 2 up to 5 mm (from 0.08" up to 0.2" in) with flange EN 12220 as an option (counter flange must be ordered separately)
Rectangular design	to be flanged at the duct pneumatic connection on the with air duct height designated side(s. Fig 0-4)

Dimensions	
Measures (h x b)/∅	as size in mm / in
Weight	as size in kg / lb
Material	stainless steel (other material on request)

Characteristic	
Pneumatic connection	pipe coupling G 1/4’’
Mounting design	- flange connection - welded - clamping connection for "Jacobrohr"
Measuring media	any non-aggressive, non-explosive, gaseous media with known density
System pressure	-0.5 ... +0.5 bar (negative/positive media)
Repeating accuracy	standard repetition accuracy ≤ ± 1 % of measurement value
Measurement accuracy	- calibrated grids on the test bench ≤ ± 1 % of measurement value - calculated grids ≤ ± 5 % of measurement value - calibrated grids on site ≤ ± 2 % of measurement value
Lost of pressure	The loss of pressure is evaluated depending on size of the grid and part of documentation at order.

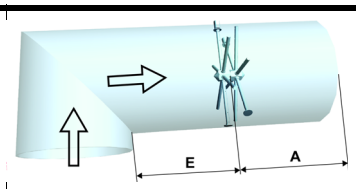
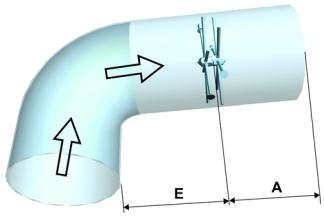
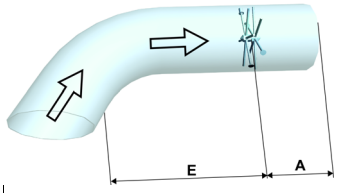
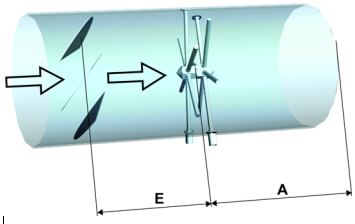
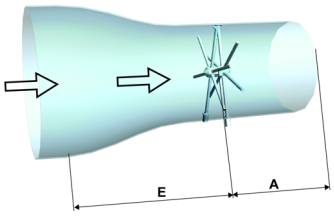
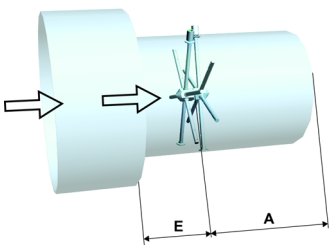
Environmental Conditions	
Temperature of measuring media	-20 °C ... +400 °C/-4 °F ... 752 °F (other temperature ranges on request)

NOTICE

The limits of the technical data must be strictly adhered to.

Technical Data mass flow measurement grid

Table of – Inlets

Type of obstacle		Tolerance ±1 % Inlet E	Tolerance ±3 % Inlet E	Tolerance ±5 % Inlet E
Rectangular deflection		6 x ∅	5 x ∅	3 x ∅
Elbow 90° Radius 1 D or smaller		5 x ∅	4 x ∅	2 x ∅
Elbow 30°		3 x ∅	2 x ∅	1 x ∅
Contrary multi leaf damper		4 x ∅	3 x ∅	2 x ∅
Gradually taper		2 x ∅	1 x ∅	1 x ∅
Sudden constriction		3 x ∅	1 x ∅	1 x ∅

Technical Data mass flow measurement grid

The tolerances are based on the measuring value

Calculation formula:

Inlet E = Tolerance multiplier ’ Type of obstacle x mass flow measurement grid ∅ (circular) or diameter (square or rectangular)

Calculation example of the Inlet

For type of obstacle ’Rectangular deflection’ with a tolerance of ±1 %;
Mass flow measurement grid DN 300 mm

E = 6 x 300 mm / 6 x 11.81" in
E = 1800 mm / 70.87" in

For type of obstacle ’Elbow 30 °’ with a tolerance of ±3 %;
Mass floe measurement grid 800 mm x 300 mm

E = 2 x 854 mm / 2 x 33.62" in
E = 1708 mm / 67.24" in

Outlet A shall consist of the length of the diameter/diagonal of the mass flow measurement grid as a minimum.

Order Information

Mass Flow Measurement Grid – Rectangular Design – Default Sizes, Material: Stainless Steel

Description/Type (dimensions h x w)*	Order No.
Mass flow measurement grid, hight 300 mm x width 300 mm (hight 11.81" in x width 11.81" in)	654RE300x300
Mass flow measurement grid, hight 350 mm x width 400 mm (hight 13.78" in x width 15.75" in)	654RE350x400
Mass flow measurement grid, hight 400 mm x width 400 mm (hight 15.75" in x width 15.75" in)	654RE400x400
Mass flow measurement grid, hight 500 mm x width 600 mm (hight 19.69" in x width 23.62" in)	654RE500x600
Mass flow measurement grid, hight 700 mm x width 700 mm (hight 27.56" in x width 27.56" in)	654RE700x700
Mass flow measurement grid, hight 750 mm x width 750 mm (hight 29.53" in x width 29.53" in)	654RE750x750
Mass flow measurement grid, hight 800 mm x width 800 mm (hight 31.50" in x width 31.50" in)	654RE800x800
Mass flow measurement grid, hight 850 mm x width 850 mm (hight 33.46" in x width 33.46" in)	654RE850x850
Mass flow measurement grid, hight 900 mm x width 900 mm (hight 35.43" in x width 35.43" in)	654RE900x900
Mass flow measurement grid, hight 950 mm x width 950 mm (hight 37.40" in x width 37.40" in)	654RE950x950
Mass flow measurement grid, hight 1.000 mm x width 1.000 mm (hight 39.37" in x width 39.37" in)	654RE1000x1000
Mass flow measurement grid, hight 1.700 mm x width 380 mm (hight 66.93" in x width 14.60" in)	654RE1700x380
Mass flow measurement grid, hight 1.200 mm x width 1.200 mm (hight 47.24" in x width 47.24" in)	654RE1200x1200

* other sizes on request

Mass Flow Measurement Grid – Circular Design – Default Sizes, Material: Stainless Steel

Description/Type (dimensions internal ∅)*	Order No.
Mass flow measurement grid circular design Ø 300 mm/11.81" in, in conduit section without flange	654RU300
Mass flow measurement grid circular design Ø 300 mm/11.81" in, Mass flow measurement grid round, Ø 300 mm/11.81" in, in conduit section with flange, in acc. to EN12220	654RU300F
Mass flow measurement grid circular design Ø 400 mm/15.75" in, in conduit section without flange	654RU400
Mass flow measurement grid circular design Ø 400 mm/15.75" in,in conduit section with flange, in acc. to EN12220	654RU400F
Mass flow measurement grid circular design Ø 500 mm/19.69" in, in conduit section without flange	654RU500
Mass flow measurement grid circular design Ø 500 mm/19.69" in, in conduit section with flange, in acc. to EN12220	654RU500F
Mass flow measurement grid circular design Ø 600 mm/23.62" in, in conduit section without flange	654RU600
Mass flow measurement grid circular design Ø 600 mm/23.62" in, in conduit section with flange, in acc. to EN12220	654RU600F
Mass flow measurement grid circular design Ø 700 mm/27.26" in, in conduit section without flange	654RU700
Mass flow measurement grid circular design Ø 700 mm/27.26" in, in conduit section with flange, in acc. to EN12220	654RU700F
Mass flow measurement grid circular design Ø 800 mm/31.50" in, in conduit section without flange	654RU800
Mass flow measurement grid circular design Ø 800 mm/31.50" in, in conduit section with flange, in acc. to EN12220	654RU800F
Mass flow measurement grid circular design Ø 900 mm/35.43" in, in conduit section without flange	654RU900
Mass flow measurement grid circular design Ø 900 mm/35.43" in, in conduit section with flange, in acc. to EN12220	654RU900F
Mass flow measurement grid circular design Ø 1.000 mm/39.37" in, in conduit section without flange	654RU1000
Mass flow measurement grid circular design Ø 1.000 mm/39.37" in, in conduit section with flange, in acc. to EN12220	654RU1000F
Mass flow measurement grid circular design Ø 1.300 mm/51.18" in, in conduit section without flange	654RU1300
Mass flow measurement grid circular design Ø 1.300 mm/51.18" in, in conduit section with flange, in acc. to EN12220	654RU1300F
Mass flow measurement grid circular design Ø 1.600 mm/62.99" in, in conduit section without flange	654RU1600
Mass flow measurement grid circular design Ø 1.600 mm/62.99" in, in conduit section with flange, in acc. to EN12220	654RU1600F

* other sizes on request

Counter Flanges – Round – Standard Sizes, Material: Stainless Steel

Description/Type (dimensions internal ∅)*	Order No.
Counter flange in acc. to EN12220 for measurement grid round, Ø 300	654RU300G
Counter flange in acc. to EN12220 for measurement grid round, Ø 400	654RU400G
Counter flange in acc. to EN12220 for measurement grid round, Ø 500	654RU500G
Counter flange in acc. to EN12220 for measurement grid round, Ø 600	654RU600G
Counter flange in acc. to EN12220 for measurement grid round, Ø 700	654RU700G
Counter flange in acc. to EN12220 for measurement grid round, Ø 800	654RU800G
Counter flange in acc. to EN12220 for measurement grid round, Ø 900	654RU900G
Counter flange in acc. to EN12220 for measurement grid round, Ø 1.000	654RU1000G
Counter flange in acc. to EN12220 for measurement grid round, Ø 1.300	654RU1300G
Counter flange in acc. to EN12220 for measurement grid round, Ø 1.600	654RU1600G

* other sizes on request

Accessories

Description/Type	Order No.
3-way valve armature, stainless steel 1.4571 Connection process side: SV 12, connection device side: Flange DIN 19213	654R0602
3-way valve armature, stainless steel 1.4571 Connection process side: SV 12, connection device side: thread G1/8	654R0606
Mounting plate with 3-way valves, for assembling of pressure transducer	654R0606HW
5-way valve armature, stainless steel 1.4571, with connectors for purging of the grid Connector process side: SV 12, connector device side: thread G1/8	654R0604
5-way valve armature, stainless steel 1.4571, with connectors for purging of the grid Connector process side: SV 12, connector device side: Flange DIN 19213	654R0603
Mounting plate with 5-way valves, for assembling of pressure transducer	654R0603HW
Differential pressure transducer 0 ... 250 Pa, 24 VDC, output root-extracted	654R0660
Differential pressure transducer 0 ... 1,000 Pa, 24 VDC, output root-extracted	654R0662
Differential pressure transducer 0 ... 7,000 Pa, 24 VDC, output root-extracted	654R0664
Differential pressure transducer 0 ... 250 Pa, 24 VDC, with P-/T-compensation	654R0665
Differential pressure transducer 0 ... 1,000 Pa, 24 VDC, with P-/T-compensation	654R0666
Differential pressure transducer 0 ... 250 Pa, 24 VDC, with P-/T-compensation, 2 relay outputs	654R0665R
Differential pressure transducer 0 ... 1,000 Pa, 24 VDC, with P-/T-compensation, 2 relay outputs	654R0666R
Purge unit in wall mounting housing for one grid	654R0610

Installation material

Description/Type	Order No.
Hose PTFE 10/8 mm, natural – per meter	650P0718
PTFE sealing tape 12x4mm, white adhesive on one side – per meter	654R0101

The information in this publication is subject to technical changes.

LAMTEC GmbH & Co. KG
Josef-Reiert-Straße 26
69190 Walldorf
GERMANY
Telefon: +49 (0) 6227 6052-0
Telefax: +49 (0) 6227 6052-57
info@lamtec.de
www.lamtec.de

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