

## EMCO Orifice Plate with Single Pressure Tapping Series MES in all Welded Construction

### Principle

EMCO orifice plate are used as primary elements in flow measurement of steam, liquid, and gas according to the differential pressure principle.

### Construction

#### Design and calculation

standards : ISO 5167-2, ASME MFC-3M, DIN 19215, Shell Flow Meter Engineering Handbook, AGA no. 3

Sizes : DN 50 - 1000 according to DIN 2402

Pressure rating : PN 10 - 400, 150 - 2500 lbs

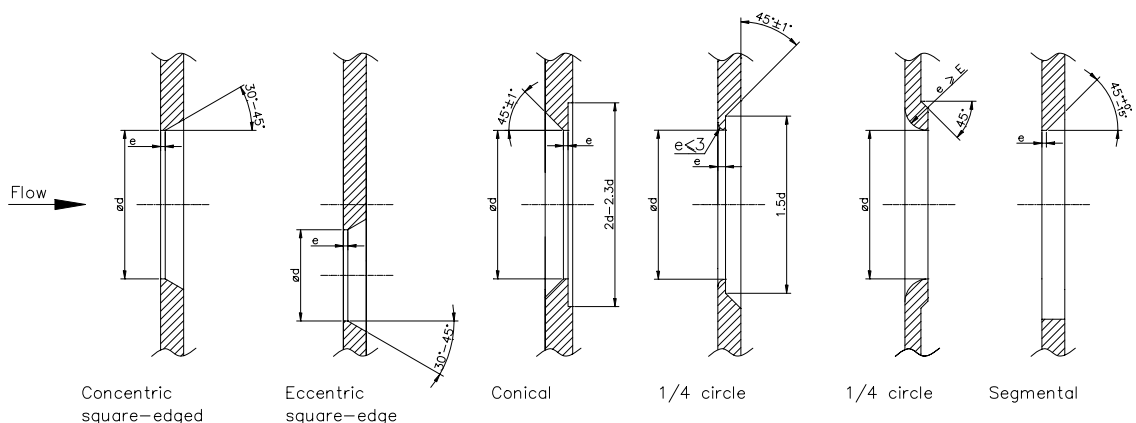
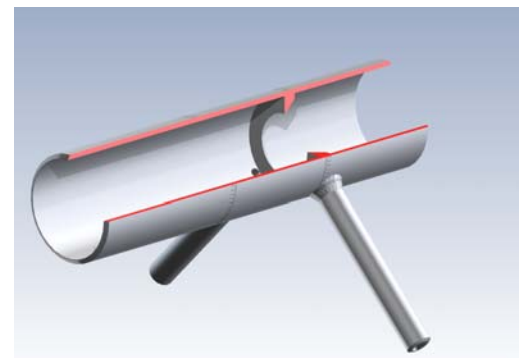
Plate thickness : 10 mm

Vent or drain hole : On request

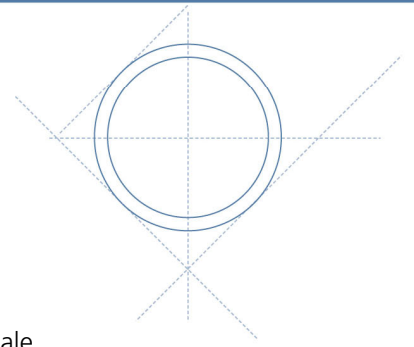
Material : Carbon steel P235GH, AISI 316, 16Mo3, 13CrMo4-5, 10CrMo9-10, WB 36, X20CrMoV121, other materials on request

Mounting style : Weld ends according to DIN 2559 or ANSI B16.25

Orifice plate shapes : Square edge concentric, square edge eccentric, conical, 1/4 circle, segment.  
The plate is bevelled on the down stream side except for 1/4 circle orifice plate.



0-04-013-2e



- Pressure taps : Ø 21.3 mm, 24 mm, 26.9 mm, ½" BSP male, ½" NPT male
- Tap lengths : 150 mm, others on request.
- Tap location : Tap location for steam flow: 180°. At least 45° apart for liquid and gas. To be stated with order
- Marking : The orifice plate is marked with "+" and "-" and flow direction.
- Accessories : single and double shut-off valves and condensing chambers for steam flow measurement

### Technical Data

- Accuracy : +/- 0,5 % for  $\beta < 0,6$  and equal to  $\beta$  for  $\beta$  values above 0,6
- Pressure loss : Depending on  $\beta$ , for  $\beta$  equal to 0,6 : ca. 60 % of the differential pressure measured
- Limits for Reynolds No :  $Re > 1260 \times \beta^2 D$  according to ISO 5167  
 $2000 < Re < 10^8$  according to ASME MFC-3M

### Dimensions

All dimensions in mm

DN	Ø Inner pipe	Upstream length ISO 5167	Total length ISO 5167	Upstream length DIN 19215	Total length DIN 19215
50	45 - 57	115	230	150	250
65	58 - 72	145	290	180	300
80	73 - 90	180	360	230	350
100	91 - 112	225	450	280	400
125	113 - 137	275	550	350	500
150	138 - 162	325	650	400	600
(175)	163- 187	375	750	470	700
200	188 - 225	450	900	570	800
250	226 - 275	550	1100	690	1000
300	276 - 325	650	1300	820	1200
350	326 - 375	750	1500	950	1400
400	376 - 425	850	1700	1050	1500
450	426 - 475	950	1900	1200	1700
500	476 - 550	1100	2200	1370	2000
600	551 - 650	1300	2600	1500	2000
700	651 - 750	1500	3000	1500	2000
800	751 - 850	1700	3400	1500	2000
900	851 - 950	1900	3800	1500	2000
1000	951 - 1100	2200	4400	1500	2000